

VU Research Portal

Living arrangements and social networks of older adults

Knipscheer, C.P.M.; de Jong-Gierveld, J.; van Tilburg, T.G.; Dykstra, P.A.

1995

[Link to publication in VU Research Portal](#)

citation for published version (APA)

Knipscheer, C. P. M., de Jong-Gierveld, J., van Tilburg, T. G., & Dykstra, P. A. (Eds.) (1995). *Living arrangements and social networks of older adults*. VU University Press.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

E-mail address:

vuresearchportal.ub@vu.nl

LIVING ARRANGEMENTS AND SOCIAL NETWORKS OF OLDER ADULTS

C.P.M. Knipscheer, J. de Jong Gierveld,
T.G. van Tilburg, P.A. Dykstra (eds.)

Living Arrangements and Social Networks of Older Adults

C.P.M. Knipscheer, J. de Jong Gierveld,
T.G. van Tilburg, P.A. Dykstra (eds.)



VU University Press
Amsterdam 1995

VU University Press is an imprint of:
VU Boekhandel/Uitgeverij bv
De Boelelaan 1105
1081 HV Amsterdam
The Netherlands

isbn: 90-5383-404-4

lay-out: Joan Vrind

© VU University Press, 1995

All rights reserved. No part of this book may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the holder of the copyright.

TABLE OF CONTENTS

Preface

1. Living arrangements and social networks as interlocking mediating structures <i>C.P.M. Knipscheer, P.A. Dykstra, J. de Jong Gierveld, & T.G. van Tilburg</i>	1
2. Living arrangements, socio-economic resources, and health <i>A.C. Liefbroer & J. de Jong Gierveld</i>	15
3. The availability and intergenerational structure of family relationships <i>P.A. Dykstra & C.P.M. Knipscheer</i>	37
4. Age differences in social participation: The importance of restrictions <i>P.A. Dykstra</i>	59
5. Delineation of the social network and differences in network size <i>T.G. van Tilburg</i>	83
6. Network composition <i>P.A. Dykstra</i>	97
7. The proximate network <i>M.I. Broese van Groenou</i>	115
8. Flow of support <i>T.G. van Tilburg, M.I. Broese van Groenou, & F. Thom��se</i>	131
9. Social relationships, integration, and loneliness <i>J. de Jong Gierveld & T.G. van Tilburg</i>	155
10. Reflections on older adults' living arrangements and social networks <i>C.P.M. Knipscheer & P.A. Dykstra</i>	173
Appendix. Data collection <i>M.I. Broese van Groenou, T.G. van Tilburg, E.D. de Leeuw, & A.C. Liefbroer</i>	185

LIST OF AUTHORS

Marjolein Broese van Groenou, Department of Sociology and Social Gerontology, Vrije Universiteit, Amsterdam

Pearl Dykstra, Netherlands Interdisciplinary Demographic Institute, Den Haag

Jenny de Jong Gierveld, Netherlands Interdisciplinary Demographic Institute, Den Haag & Department of Social Research Methodology, Vrije Universiteit, Amsterdam

Kees Knipscheer, Department of Sociology and Social Gerontology, Vrije Universiteit, Amsterdam

Edith de Leeuw, Department of Social Research Methodology, Vrije Universiteit, Amsterdam

Aart C. Liefbroer, Netherlands Interdisciplinary Demographic Institute, Den Haag

Fleur Thomése, Department of Sociology and Social Gerontology, Vrije Universiteit, Amsterdam

Theo van Tilburg, Department of Social Research Methodology, Vrije Universiteit, Amsterdam

PREFACE

This volume is written by participants in a research programme on living arrangements and social networks of older adults. It not only presents a descriptive overview of a number of central issues in this study, but also reports on crucial decisions which were taken in the preparations of this programme: Decisions on the scope of the fieldwork, the characteristics of the sample, the collection of life histories, the inventory of social activities, the network delineation procedure, and the focus on both the receipt and provision of support.

The description of the living arrangements and social networks of older adults is organized according to a number of successive steps, conceiving the micro-social environment as a multiplex system of partly separated and partly overlapping layers of relationship partners. Using this procedure, we were able to go beyond differences between categories of older adults based on the traditional background variables, such as age, sex, and marital status.

Not only life course events and decisions, but also the availability or absence of specific relationships are linked with the functions of living arrangements and social networks. Consistent differences in the size of the social network, in the amount of support given and received, in levels of loneliness over a span of 35 years —respondents being between 55 and 90— may indicate changes related to aging. However, at the same time, the interrelations of these differences with the availability of economic, social, and physical resources, and with mechanisms of selection and personal commitments are demonstrated.

The programme ‘Living arrangements and social networks of older adults’ was developed on request of the Netherlands Programme for Research on Aging (Nederlands Stimuleringsprogramma Ouderenonderzoek, NESTOR) steering committee. NESTOR is funded by the Ministry of Education, Culture, and Science, and by the Ministry of Welfare, Health, and Sports. The ‘Living arrangements and social networks of older adults’ research

programme (NESTOR-LSN) is conducted at the Department of Sociology and Social Gerontology at the Vrije Universiteit in Amsterdam, the Department of Social Research Methodology at the Vrije Universiteit in Amsterdam, and the Netherlands Interdisciplinary Demographic Institute (NIDI) in The Hague. We gratefully acknowledge the ministries who made it possible to carry out the NESTOR-LSN research programme.

We are indebted to a large group of individuals who in one way or another assisted the researchers in the process of data-collection: Mik van de Klundert, Inke Wisse, Jan Poppelaars, Cornelia Peeck, Jutte Koekebakker, Pien van der Kooi, and, of course, the team of 88 interviewers.

During the final stages of manuscript preparation, invaluable assistance was provided by NIDI staff members. Special thanks go to Angie Pleit-Kuiper for the English language editing and to Joan Vrind for the technical editing.

A last word of thanks goes to the respondents who reserved time to talk about past and current activities and relationships. Their personal experiences form the material of this volume.

LIVING ARRANGEMENTS AND SOCIAL NETWORKS AS INTERLOCKING MEDIATING STRUCTURES

**Kees Knipscheer, Pearl Dykstra, Jenny de Jong Gierveld, and
Theo van Tilburg**

In this introductory chapter we describe the rationale for developing a research program on older adults' living arrangements and social networks. We provide arguments for the relevance and importance of work in this area, and provide indications of the kinds of insights we hope to obtain. The chapter ends with a brief overview of what to expect in the book.

Throughout the world, a trend toward population aging is visible. Though the quantitative features of changing age structures are widely known and generally undisputed (a higher proportion at the 'older' ages, however defined), the social implications are as yet little known, and often subject to considerable debate and speculation (Day, 1992). Economic concerns have dominated studies on population aging. Attention has focused on the question of how society can financially support an aging population. The picture painted for the future is one of fewer shoulders to bear greater loads.

Unfortunately, however, in focusing on the question of how society can financially support an aging population, the elderly are constituted as a cost factor, a burden on society (Warnes, 1993). That way, a biased perspective on the elderly is created and maintained, one which generally portrays the elderly as dependents. What is often neglected is that the elderly are not always on the receiving side (Arber & Ginn, 1990). For example, within families, substantial transfers take place from members of older to members of younger generations. Apart from providing financial support in the forms of donations, gifts and regular monetary contributions (Cheal, 1987; Aldous, 1987; de Regt, 1993), older parents are important sources of instrumental

support (shopping, cleaning, home maintenance, childcare) and emotional support (advice, validation) for their children (Bengtson, Rosenthal & Burton, 1990; Morgan, 1982; Shanas, 1967). Furthermore, older adults are increasingly being recognized as a group with economic power of their own. Quite recently, they have been discovered as an important group of consumers, a target population for the design, fashion and make-up industry, for the tourist industry, and for manufacturers of health products.

In the social sciences, a shift in attention is becoming evident, a shift from viewing the elderly (exclusively) as a group in need of care to viewing the elderly as a group of independent actors. As the appearance of recent volumes attests, increasing attention is being given to the contributions which the elderly can make to society (Butler & Gleason, 1985; Morris & Bass, 1988), and to the conditions enabling older adults to (continue to) arrange and rearrange their own lives (Baltes & Baltes, 1990; Baltes, Kohli & Sames, 1989; Van den Heuvel, Illsley, Jamieson & Knipscheer, 1992; Riley & Riley, 1989a).

The perspective adopted in the NESTOR 'Living arrangements and social networks' research program (NESTOR-LSN) is also one which emphasizes the autonomy of older adults, that is, older adults' capability to manage on their own. An increasing number of studies have demonstrated the importance of control for well-being, that is, the extent to which older adults are able to make decisions regarding the choice of activity, method and manner of engagement, time, pace, and the like (Rowe & Kahn, 1987). However, contrary to many of the studies on the conditions governing older adults capability to manage on their own which have tended to emphasize individual characteristics such as the level of cognitive performance or health status, the program focuses on characteristics of the *social matrix* (Riley & Riley, 1989b) in which older adults are embedded. The focus is on the importance of the personal relationships older adults have with others for daily functioning, for coping with life events and for maintaining and improving well-being. These outcomes are often subsumed under the concepts 'resilience' and 'reserve capacity' (Staudinger, Marsiske & Baltes, in press). Resilience conveys the idea that individuals can avoid negative outcomes in the face of stressors or return to normal functioning after experiencing setbacks. Reserve capacity refers to an individual's potential for change, and more particularly his or her potential for growth.

The desire to move beyond an exclusive focus on individual characteristics is not the only reason for focusing on older adults' relationships in the

NESTOR-LSN program. Another consideration is that it is in personal relationships in particular that the impact of broader societal changes is reflected. The economic, demographic and cultural changes of recent decades have led to changes in the sets of relationships available to people and/or in the conditions organizing opportunities for social interaction. As yet, it is unclear what the implications are for individual older adults. We do not know how older adults presently are, and in the future will be dealing with the changes in the conditions governing personal relationships. Apart from macro-level influences, older adults' relationships are also subject to changes which are associated with the aging process itself. We feel therefore, that the implications of changes in personal relationships which are associated with societal changes must be considered *in conjunction with* life course changes in personal relationships. Both sources of change will be elaborated next.

Macro-social trends governing living arrangements and networks

The most remarkable change in older adults' living arrangements has been the consistent rise in one-person households. Forecasts for the Netherlands indicate that this trend will continue in the future (De Beer, De Jong & Visser, 1993). Given that wives tend to outlive their husbands, the majority of the elderly living in one-person households are widows. The rise in the percentage of older adults living on their own has been linked with a number of demographic, economic, health and social factors (Beresford & Rivlin, 1966; Kobrin, 1976; Michael, Fuchs & Scott, 1980; Mutchler & Burr, 1991; Pampel, 1983). In the Netherlands, the reduction of the housing shortage has made it possible for more older adults to have independent households (Prins, 1990). The increase in longevity has increased the likelihood that at least one parent is alive after the last child has left the home. In addition, the introduction of a state pension, a pension which may or may not be supplemented by private funds, has reduced the financial necessity of co-residence. Finally, the rise in one-person households has been linked to changes in preferences (cf. Burch & Matthews, 1987). Many older adults, upon the loss of the partner, prefer to have a household of their own, choosing to be independent and self-reliant (Hess & Markson, 1980). This preference reflects changes in intergenerational relationships more generally. Hareven (1982) has described the emergence of increasing individualism in families: taken for granted obligations are being replaced by increasing voluntariness. For some, the preference for independence may also have been

shaped by early childhood experiences of the lack of privacy and the burden of caring for a co-residing grandparent.

Kin networks are undergoing extensive changes as the result of demographic developments. Altered fertility and mortality patterns are leading to shifts in the number of intragenerational versus intergenerational ties, and in the relative balance of young and old in the family (Hagestad, 1986). Current cohorts of older adults are more often members of four or five generation families than past cohorts were. So-called 'bottom-heavy' family structures, that is families with relatively many grandchildren and, at best, one grandparent, are becoming less prevalent, while so-called 'top-heavy' family structures, that is families with two grandparents and relatively few grandchildren, are becoming more prevalent. Furthermore, the increase in divorce and remarriage have made later life kin networks more complex (Riley, 1983). A wide range of family ties can exist: children through a first marriage, children through a second marriage, step-children, the second spouse of a child, the ex-spouse of a sibling, and so forth.

Economic developments in recent decades have had implications for ties both within and outside families (Hareven, 1987; Litwak, 1985). The organization of the labour force requires greater geographical and job mobility. Fewer people tend to spend their entire life in one location or in one occupation than was the case in the past. As a result, the fields from which relationships are recruited change, and there is a greater turnover in relationships. Residential and job changes lead to the disruption of existing relationships and the formation of new ones. An implication of these developments is that greater efforts must be expended in initiating and maintaining relationships. The increase in the standard of living together with the increase in leisure time have increased the possibilities for people to exercise choice in their relationships and to devote efforts to servicing them. People can be selective, interacting more with those who have compatible lifestyles, and avoiding disagreeable neighbours, co-workers, kinfolk and acquaintances (Wellman, 1992). The basis for engagement in relationships is said to be undergoing fundamental changes. The existence and availability of relationships can no longer be taken for granted, as was often the case in the past. Especially among the younger generations, relationships have changed in the sense that they require negotiations, adjustments and monitoring to be kept alive (De Swaan, 1982).

The impact of aging on living arrangements and networks

Living arrangements and social networks change over the life course. Configurations of kin and non-kin are formed and re-formed as individuals go through life. Their composition changes over time, as does their importance. Relationships serve different functions at different points in time. The function of parents differs at successive stages of the life course. Parents start as carers, educators and socializers. Next they become more like peers, while at advanced ages many occupy a more dependent position vis-à-vis their children. Likewise, the function of friends varies across the different social positions people occupy in the course of their lives: the amount and kind of interaction depends upon the competition from other spheres of life and the need fulfilment they provide (Hess, 1972).

Aging tends to be associated with relationship losses. Usually parents are the first to be lost, followed by same-age associates such as a partner, siblings and friends. The oldest old may experience the loss of children. Relationship losses, and particularly the loss of a partner, have an immediate impact on living arrangements, kin and non-kin networks. The impact of other age-related changes is more indirect. As people enter late life, they generally are in a position to exercise greater choice in their relationships. Freed from the obligations of employment and the responsibility for children at home, they tend to have greater opportunities to organize and structure their social lives. Increasing age may also bring changes in relationship needs (Lehr, 1980), for example as the result of increasing impairment. Older adults may become more dependent on others, lacking the ability to fulfil certain tasks themselves. The existing balance in their relationships may be disrupted, introducing strain and discomfort. Furthermore, a deterioration of health may impose restrictions upon older adults' abilities to engage in interaction with others. Hearing and memory problems can limit conversational exchanges. Reduced physical mobility can limit the participation in shared activities. However, declines in social contact with increasing age may also be self-imposed. Psychological theories of the developmental tasks of old age (Havighurst, 1948; Neugarten, 1977) point to a progressive turning inward with aging. In late life, greater attention is given to the evaluation of one's past and dealing with death and dying. Affiliation and companionship may need to be counterbalanced with solitude and privacy (Staudinger, Marsiske & Baltes, in press).

Consequences for older adults' well-being

The previously described macro-social developments refer to broad, general changes in conditions governing primary relationships. As said, it is unclear what the implications are for individual older adults. One may argue, on the one hand, that the macro-social changes operate to put the elderly at *risk*. For example, the increasing number of older adults who are living on their own presumably implies an increasing number of older adults in vulnerable positions, vulnerable because they must turn to others outside their household for the fulfilment of their support needs. Moreover, the increasing complexity of kin relationships and the greater turnover in non-kin relationships presumably set older adults at a disadvantage because they, in comparison with younger adults, have less experience initiating and ending partner and other romantic relationships. Contemporary older adults were socialized to view marriage as the normal, optimal and enduring framework for an adult life. They grew up in periods when the kin and non-kin relationships people had were relatively stable. One may argue, on the other hand, that the macro-social changes have created *greater opportunities* for the elderly. Thus one can argue that the rise in the number of one-person households allows more and more older adults privacy and independence. Furthermore one can argue that the increasing complexity of kin relationships and the greater turnover in non-kin relationships provide the elderly with greater freedom to choose the people they do and the people they do not want as close associates.

Just as it is unclear what the implications are of macro-social changes for the well-being of individual older adults, the consequences of changes associated with aging are not well understood either. Thus one may argue, on the one hand, that older adults are confronted with *increasing difficulties* in finding fulfilment of their needs for well-being. As described earlier, with increasing age, people are more likely to experience relationship losses, less likely to be self-sufficient and independent, and more likely to experience restrictions in interacting with others. One may argue, on the other hand, that as people age, they are provided with *new options*. Retirement tends to bring an increase in free-available time, time which can be spent on the servicing of relationships. The loss of the partner, though it is one of the most traumatic experiences a person is likely to endure, can provide the impetus for engaging in new social activities and developing contacts of one's own.

Conceptual framework

The *dynamic*, changing character of living arrangements and networks is captured in Kahn and Antonucci's (1980) convoy model of social support. In their view, 'each person can be thought of as moving through the life cycle surrounded by a set of people to whom he or she is related by the giving or receiving of social support' (p. 269). The term *convoy* refers to this set of people, and is of course, what we have been referring to as living arrangements and social networks. The composition of the convoy changes over the life course: some relationships are added, others are dropped. Likewise, the kinds and amounts of support given to and received from convoy members vary across the life course.

An adaptation of Kahn and Antonucci's convoy model serves as a heuristic framework in our research program (see *Figure 1.1*). We are not using it as an explanatory model, but rather as a framework guiding the selection and organization of research questions. What makes the convoy model attractive is that it emphasizes interactions. For example, a person's requirements for social support at any given time are jointly determined by properties of the situation (e.g. performance demand, resources) and of the person (e.g.

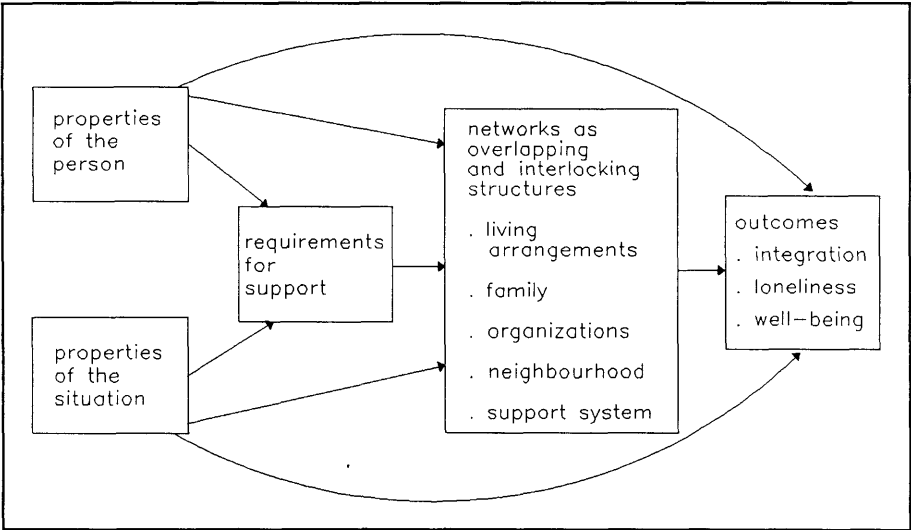


Figure 1.1. Determinants and outcomes of networks conceived as overlapping and interlocking structures (adapted from Kahn and Antonucci, 1980)

abilities, experience, personality). At any given time, the structure of the convoy and the support it provides, are jointly determined by personal and situational characteristics. Another attractive aspect lies in the centrality of the element of time. Personal characteristics and situational characteristics are not stable, but are subject to changes occurring over time. To fit our purposes, we modified the model in two ways. The first change is the omission of Kahn and Antonucci's concept 'adequacy of support'. We left it out because it is implied by definition in outcome variables such as subjective well-being. The second modification is a specification of the convoy structure. To emphasize the social embeddedness of living arrangements and social networks, we decomposed the convoy structure in a number of layers. We specified a set of interlocking social structures: partner relationships and the living arrangements of which they are part, and networks and the families, neighbourhoods, organizations and larger institutions in which they are nested. Though Kahn and Antonucci did not implement the notion of layers in their convoy model, their suggestions to make an inventory of the convoy composition based on a set of concentric circles demonstrate that the notion is familiar to them.

In what follows, we elaborate this notion of layers or interlocking social structures. We feel it is an important conceptual tool. It emphasizes the *social embeddedness* of phenomena and offers a means to relate older adults' well-being and behaviour to their living arrangements and social networks, and in turn, to *connect* the latter to larger social structures and processes. The notion of layers serves as the organizing principle of this volume. Beginning with the smallest, most private social unit, namely the living arrangement, successive chapters deal with social domains that extend further and further into the wider community.

Interlocking social structures

The study of interlocking social structures brings us to a central question of the social sciences, namely that of cohesion within society (Ultee, Arts & Flap, 1992). Cohesion concerns the interconnections among members of society, and the extent to which individuals are embedded in one or more groups which serve specific functions. These groups are viewed as 'mediating structures' (Nauta & Schuyt, 1985) which provide linkages between individuals and groups of individuals within the society. The *integration* of

individuals in society follows from the adherence to the norms of the mediating structures in which they participate.

Interlocking social structures are also central to the ecological paradigm put forward by Stephens and Hobfoll (1990) for understanding late life family functioning. They borrowed the ecological analogy from biology. An ecosystem is a web of related organisms, plants and animals that exist together in a particular climate and geography. A change in any part of the system will, in turn, reverberate throughout the ecosystem. Stephens and Hobfoll argue that adoption of an ecological perspective sensitizes researchers to the *interdependencies* among domains and levels of analysis. They use societal policy vis-à-vis care at home of frail older adults as an illustration of such interdependencies. The policies will affect the division of tasks within the family, performance at work, the organization of nursing homes, and how the society views older adults. Eventually, these changes will come full circle to affect policies concerning home-based care. Thus, to understand the complexities that late-life families experience, attention needs to be paid not only to factors within a particular level of analysis (e.g. the interactions between the family and the institutions that house, treat and fund services for older adults) but also to different levels of analysis (e.g. family history, cultural expectations).

As described earlier, we focus on the micro-level of older adults' living arrangements and social networks. Though the term 'micro' perhaps suggests otherwise, the micro-level of living arrangements and social networks is in itself a *multiplex system* of partly overlapping groups of personal relationships, which each have their own social climate, cultural tradition and history. In this volume we will devote attention to several parts of this multiplex system. The emphasis will be on *description*. The central question guiding the chapters is: What do the living arrangements and social networks of older adults in the Netherlands look like? Sex and age differences will be considered in each chapter. The *explanation* of these and other differences will be considered in greater depth in future publications. There we will be looking at the ways in which living arrangements and social networks reflect biographical, historical and cultural changes, and in turn, have social implications of their own.

Organization of the book

Older adults' *living arrangements* are described in Chapter 3. Living arrangements pertain to forms of residence (in private home or institution)

and to household composition. They form the innermost layer of social structures surrounding the individual. Of course, for those living alone, this layer consists of themselves. Living arrangements strongly determine the opportunities and needs for engaging in social interaction. For that reason, differences according to living arrangement will be considered in subsequent chapters, along with age and sex differences.

The *family* is the second layer surrounding older adults. It is well-known that inter- and intragenerational family relationships play a key role in integrating people in society. Chapter 3 not only describes the availability of family relationships, but also shows to what extent they are alive and significant.

Organizations such as the church and voluntary associations form the outermost social level considered in this book. Chapter 4 on social participation explores older adults' involvement in these *organizations* by looking at membership and volunteer work.

Social network relationships partly overlap with family relationships, but they also include relationships with neighbours, friends and contacts through work and organizations. Though the different types of relationships generally serve different functions (Cantor, 1979; Dykstra, 1990, Knipscheer, 1980; Peters & Kaiser, 1985; Rosow, 1967), they are considered together in the next four chapters. More specifically, Chapter 5 describes the procedure by which the *social network* was delineated. It also considers differences in network size. The different domains of living arrangements, the family and organizations from which network members can be recruited, are central to the delineation procedure. Chapter 6 examines differences in the kinds of *relationships* in the social network. Chapter 7 considers a specific portion of the network, namely the so-called *proximate* network, and its support potential. The proximate network consists of those living within a fifteen-minute travelling distance, and is of course a way of looking at yet another social layer, namely the neighbourhood or community in which the older adult lives. Chapter 8 focuses on a different selection of relationships: the 'top-twelve' in which contact is most frequent. The chapter examines the actual *supportive exchanges* in those relationships.

After having analysed the layers of older adults' social worlds in relative isolation of one another, the last chapter treats them comprehensively. It examines what has remained implicit in preceding chapters, namely that the relationships in which older adults participate, serve a socially integrating

function. Poor social integration can result in *loneliness*. Chapter 9 analyses the extent to which living arrangements and social networks help older adults from feeling lonely.

As a backdrop for the substantive chapters, the Appendix describes the organization and outcome of the fieldwork. A survey was conducted among over 4000 men and women between the ages of 55 and 89. The Appendix provides details on the method of data collection, and discusses the representativeness of the respondent sample.

References

- Aldous, J. (1987). New views on the family life of the elderly and the near-elderly. *Journal of Marriage and the Family*, 49, 227-234.
- Arber, S., & Ginn, J. (1990). The meaning of informal care: Gender and the contribution of elderly people. *Ageing and Society*, 10, 429-454.
- Baltes, P.B., & Baltes, M.M. (1990). *Successful aging: Perspectives from the behavioral sciences*. Cambridge: University Press.
- Baltes, M.M., Kohli, M., & Sames, K. (1989). (Eds.). *Erfolgreiches Altern: Bedingungen und Variationen* [Successful aging: Conditions and variations]. Bern: Huber.
- Beer, J. de, Jong, A. de, & Visser, H. (1993). Nationale huishoudensprognose 1993 [National household forecast 1993]. *Maandstatistiek van de Bevolking*, 93/8, 13-23.
- Bengtson, V.L., Rosenthal, C., & Burton, L. (1990). Families and aging: Diversity and heterogeneity. In R.H. Binstock & L.K. George (Eds.), *Handbook of aging and the social sciences* (3rd ed. pp. 263-287). Orlando FL: Academic.
- Berardo, F.M. (1990). Trends and directions in family research in the 1980s. *Journal of Marriage and the Family*, 52, 809-817.
- Beresford, J.C., & Rivlin, A.M. (1966). Privacy, poverty, and old age. *Demography*, 3, 247-258.
- Burch, T.K., & Matthews, B.J. (1987). Household formation in developed societies. *Population and Development Review*, 13, 495-511.
- Butler, R.N., & Gleason, H.P. (1985). (Eds.). *Productive aging: Enhancing vitality in later life*. New York: Springer.
- Cantor, M.H. (1979). Neighbours and friends: An overlooked resource in the informal support system. *Research on Aging*, 1, 434-463.

- Cheal, D.J. (1987). Intergenerational transfers and life course management: Towards a socio-economic perspective. In A. Bryman, B. Bytheway, P. Allat & T. Keil (Eds.), *Rethinking the life cycle* (pp. 141-154). New York: MacMillan.
- Day, L. H. (1992). *The future of low-birthrate populations*. New York: Routledge.
- Dykstra, P.A. (1990). *Next of (non)kin: The importance of primary relationships for older adults' well-being*. Amsterdam: Swets & Zeitlinger.
- Hagestad, G.N. (1986). The aging society as a concept for family life. *Daedalus*, 115, 119-139.
- Hareven, T.K. (1982). *Family time and industrial time*. Cambridge: University Press.
- Hareven, T.K. (1987). Family history at the crossroads. In T.K. Hareven (Ed.), *Family history at the crossroads: Linking familial and historical change* (pp. ix-xxiii). Journal of Family History [Special issue], 12.
- Havighurst, R.J. (1948). *Developmental tasks and education*. New York: McKay.
- Hess, B. (1972). Friendship. In M.W. Riley, M. Johnson & A. Foner (Eds.), *Aging and society, Volume 3: A sociology of age stratification* (pp. 357-393). New York: Russell Sage.
- Hess, B. & Markson, E.W. (1980). *Aging and old age*. New York: MacMillan.
- Heuvel, W.J.A., van den, IJssley, R., Jamieson, A., & Knipscheer, C.P.M. (Eds.). (1992). *Opportunities and challenges in an ageing society*. Amsterdam: Royal Netherlands Academy of Arts and Sciences.
- Johnson, C.L. (1988). *Ex-familia*. New Brunswick, NJ: Rutgers University Press.
- Kahn, R.L. & Antonucci, T.C. (1980). Convoys over the life course: Attachment, roles and social support. In P.B. Baltes & O. Brim (Eds.), *Life-span development and behaviour* (Volume 3, pp. 253-286). New York: Academic.
- Knipscheer, C.P.M. (1980). *Oude mensen en hun sociale omgeving: Een studie van het primaire sociale netwerk* [Elderly and their social environment: A study of the primary social network]. Den Haag: Vuga.
- Kobrin, F.E. (1976). The fall in household size and the rise of the primary individual in the United States. *Demography*, 13, 127-138.
- Lehr, U. (1980). *Psychologie van de ouderdom* [Psychology of aging]. Deventer: Van Loghum Slaterus.
- Litwak, E. (1985). *Helping the elderly: The complementary roles of informal networks and formal systems*. New York: Guilford.

- Michael, R.T., Fuchs, V.R., & Scott, S.R. (1980). Changes in the propensity to live alone: 1950-1976. *Demography*, 17, 39-53.
- Morgan, L.A. (1982). Social roles in later life. In C. Eisendorfer (Ed.), *Annual review of gerontology and geriatrics* (Vol. 8, pp. 217-255). New York: Springer.
- Morris, R., & Bass, S.A. (1988). (Eds.). *Retirement reconsidered: Economic and social roles for older people*. New York: Springer.
- Mutchler, J.E., & Burr, J.A. (1991). A longitudinal analysis of household and nonhousehold living arrangements in later life. *Demography*, 28, 375-390.
- Nauta, J., & Schuyt, T. (1985). Mediating structures and the linkage of social care and individual responsibility. In J.A. Yoder, J.M.L. Jonker & R.A.B. Leaper (Eds.), *Support networks in a caring community* (pp. 191-199). Dordrecht: Nijhoff.
- Neugarten, B.L. (1977). Personality and aging. In J. Birren & K.W. Schaie (Eds.), *Handbook of the psychology of aging* (pp. 626-649). New York: Van Nostrand & Reinhold.
- Pampel, F.C. (1983). Changes in the propensity to live alone: Evidence from consecutive cross-sectional surveys. *Demography*, 20, 433-447.
- Peters, G.R., & Kaiser, M.A. (1985). The role of friends and neighbors in providing social support. In W.J. Sauer & R.T. Coward (Eds.), *Social support networks and the care of the elderly* (pp. 123-158). New York: Springer.
- Prins, C.J.M. (1990). Sterke groei éénpersoonshuishoudens onder bejaarden [Sharp increase in one-person households among the elderly]. *Maandstatistiek van de Bevolking*, 90/2, 10-11.
- Regt, A. de (1993). *Geld en gezin: Financiële en emotionele relaties tussen gezinsleden* [Money and family: Financial and emotional relationships among family members]. Meppel: Boom.
- Riley, M.W. (1983). The family in an aging society: A matrix of latent relationships. *Journal of Family Issues*, 4, 439-454.
- Riley, M.W., & Riley, J., Jr. (1989a). (Eds.). The quality of aging: Strategies for intervention [Special issue]. *The Annals of the American Academy of Political and Social Science*, 503.
- Riley, M.W., & Riley, J., Jr. (1989b). The life of older people and changing social roles. In M.W. Riley & J. Riley Jr. (Eds.), The quality of aging: Strategies for intervention [Special issue]. *The Annals of the American Academy of Political and Social Science*, 503, 14-28.
- Roebroek, J. (1989). Ontgroening en waarborgen voor maatschappelijke solidariteit [Dejuvenation and guarantees for social solidarity]. In

- J.G.M. Assen & H.J. Heeren (Eds.), *Ontgroening: Proces van aanpassing* (pp. 151-165). The Hague: NVD.
- Rosow, I. (1967). *Social integration of the aged*. New York: Free Press.
- Rowe, J.W., & Kahn, R.L. (1987). Human aging: Usual and successful. *Science*, 237, 143-149.
- Scott, P., & Johnson, P. (1988). *The economic consequences of population ageing in advanced societies*. London: Centre for Economic Policy.
- Shanas, E. (1967). Family help patterns and social class in three countries. *Journal of Marriage and the Family*, 29, 257-266.
- Staudinger, U.M., Marsiske, M., & Baltes, P.B. (in press). Resilience and reserve capacity in later adulthood: Potentials and limits of development across the life span. In D. Cicchetti & D. Cohen (Eds.), *Manual of Developmental psychopathology*. New York: Wiley.
- Stephens, M.A.P., & Hobfoll, S.E. (1990). Ecological perspectives on stress and coping in later-life families. In M.A.P. Stephens (Ed.), *Stress and coping in later-life families* (pp. 287-304). New York: Hemisphere.
- Swaan, A. de (1982). Uitgaansbeperking en uitgaansangst: Over de verschuiving van de bevelshuishouding naar de onderhandelingshuishouding [On the shifts in households, from commandeering to negotiating]. In A. de Swaan (Ed.), *De mens is de mens een zorg* (pp. 81-115). Amsterdam: Meulenhoff.
- Ultee, W., Arts, W., & Flap, H. *Sociologie: Vragen, uitspraken, bevindingen* [Sociology: Questions, propositions, findings]. Groningen: Wolters-Noordhoff.
- Warnes, A.M. (1993). Being old, old people and the burdens of burden. *Ageing and Society*, 13, 297-338.
- Wellman, B. (1992). Men in networks: Private communities, domestic friendships. In P. Narid (Ed.), *Men's friendships* (pp. 74-114). London: Sage.

LIVING ARRANGEMENTS, SOCIO-ECONOMIC RESOURCES, AND HEALTH

Aart C. Liefbroer and Jenny de Jong Gierveld

This chapter serves two functions with regard to the conceptual model outlined in the introductory chapter. *First*, it examines the innermost layer of social structures surrounding the individual, namely their living arrangements. As was suggested in the introductory chapter, a partner and other household members usually are key members in one's social network, and the presence or absence of these core network members might have a large impact on the social integration of the elderly. Therefore, current living arrangements of the elderly are discussed, with special attention to differences between men and women and between older adults of different ages.

Differences in living arrangements across age groups are not simply the result of the aging process itself, but also reflect cohort-related changes in living arrangements, as younger cohorts have experienced increasing divorce rates, decreasing fertility, and an increasing life-expectancy. Retrospective data on former living arrangements of the elderly are used to ascertain the extent to which such cohort changes have left their mark on the living arrangements of Dutch elderly.

The availability of a partner and other household members does not only identify an important part of the network, but can also be viewed as a determinant of the size and composition of the network as a whole. Elderly who do not have a partner will have smaller networks than elderly who do have one. Furthermore, because they lack the support of a partner, elderly who live alone will require more support from others and will have to invest more in these kinds of relationships than elderly who do have a partner. In terms of the convoy model depicted in Chapter 1, the living arrangements

of elderly can be viewed as one of the factors constituting their requirement for support.

However, requirements for support are not the only factor determining the size and composition of the networks of the elderly, but properties of the person and the situation play a role as well. A *second* aim of this chapter is to examine some key properties that could act as restrictions on the ability of the elderly to establish satisfactory networks. In particular, attention will focus on socio-economic and health factors that could hamper the initiation and maintenance of relationships by the elderly.

Sex-, age-, and cohort-specific differences in living arrangements

Among older adults, a large variation in living arrangements exists. Some older adults are living with a spouse and children, others are living with a partner but without children, or with children but without a spouse, yet others live alone or in an institution. Furthermore, what distinguishes variation in living arrangements from variation in many other social characteristics is that this variation does not only occur between individuals, but also within an individual's own life at consecutive points during older adulthood. This large variation results from the fact that living arrangements are 'simply' the outcome of its constituting demographic processes of union formation, childbearing, divorce, migration, and death. The emergence of each one of these demographic events very often leads to a change in living arrangements (Burch & Matthews, 1987; Willekens, 1988).

There are large differences in living arrangements between the sexes and between age groups (Wall, 1989). The differences between the sexes result from the fact that some of the constituting processes are highly sex-specific. Most important, women die later than men. But married women are in general also some years younger than their spouses, resulting in an earlier start of the 'empty nest phase' and a higher likelihood of surviving their spouses. The differences between age groups result from the age specificity of some of the constituting processes, such as leaving the parental home by children, physical impairment, and death.

However, differences in living arrangements between age groups do not only result from the age specificity of the constituting processes outlined above, but may also result from cohort-specific changes in these processes. During

the last decennia demographic developments have left their mark on the living arrangements of the elderly (Grebenik, Höhn, & Mackensen, 1989; Kobrin, 1976; Mutchler & Burr, 1991; Treas & Bengtson, 1982; Van Solinge, 1994). Without trying to be complete, some important changes discussed in these studies are:

- the decrease in the number of children and the decrease in the age at which children leave the parental home, have led to a drop in the age at which the 'empty nest' phase starts and extended its length (Kiernan, 1989; Mayer & Schwartz, 1989);
- the increase in divorce and separation has led to a rise in the number of people living in one-person and in one-parent households (Pampel, 1983);
- the increase in life-expectancy has extended the time elderly spend in both one-person households and with a partner (Treas & Bengtson, 1982).

These cohort-related changes in the way people organize aspects of their intimate lives have also led to changes in the way the social sciences study and interpret these phenomena. Today, the concept 'living arrangements', rather than the more traditional terms 'family' and 'marriage', is used to describe the different types of households people live in (Marsh & Arber, 1992). Furthermore, in the past changes in living arrangements were viewed as appearing in a well-ordered fashion, according to people's position in the (family) life cycle. Nowadays, there is more room for the study of differentiation in life experiences, and the term 'life course' is used rather than 'life cycle' (Elder, 1987; Kertzer, 1986; Willekens, 1988).

Given these developments, the first aim of this chapter is to provide information on the current living arrangements of older adults in the Netherlands, and to show the diversity in living arrangements between men and women and across age categories. To examine whether differences in living arrangements across age categories partly result from differences between cohorts in their living arrangement trajectories, retrospective information on the living arrangement trajectories of subsequent cohorts of elderly will briefly be presented.

Sex-, age-, and cohort-specific differences in socio-economic and physical resources

The living arrangements of older adults are not only important in their own right, but also mediate the requirements of older adults for support outside their own household. As such they play a key role in Kahn and Antonucci's (1980) convoy model that serves as one of the organizing principles of this volume. In their probing analysis of resources and constraints among older adults, Arber and Ginn (1991) stress the importance of two other types of resources for the elderly's capacity to act independently and to secure positively valued outcomes, namely material and physical resources.

Information on the socio-economic resources of the elderly population is still relatively scarce (Mayer & Wagner, 1993; Pampel & Hardy, 1994; Timmermans, 1993). Arber and Ginn (1991) stress that this is even more true with regard to women than with regard to men. They attribute this to the pre-occupation of sociology with the concerns of the male-dominated public sphere of paid employment. Whatever the reasons, the result clearly is a general shortage of information on socio-economic issues among the elderly.

It does not make much sense to discuss socio-economic and physical resources among the elderly in general, given the large variation in the availability of these resources within the older population. Rather, our interest lies in differences in the availability of resources between the sexes, between age groups, and between older adults in different living arrangements.

Socio-economic resources are not distributed evenly across the older population. First, sex differences exist (Arber & Ginn, 1991; Mayer & Wagner, 1993). Because women have lower labour-force participation rates than men, and, if they are employed, are overrepresented in low salary jobs, their life-time earnings are less than those of men. As a result, women's income in later life will generally be lower than men's income. This difference will not affect all elderly women uniformly, however. Married women usually share their spouses' income, and widowed women can benefit from pensions based on the life-time earnings of their deceased spouse. Therefore, the effects will be strongest on the income levels of never-married and divorced women. They seem to be most likely to have low incomes in old age. As this example makes clear, sex differences in the availability of resources often interact with age and living arrangement.

As the last example shows, it is also important to differentiate socio-economic resources according to the living arrangements of older adults. Older adults who are divorced often have fewer financial resources than married older adults (Arber & Ginn, 1991). The position of widowed and never-married older adults in this respect is less clearcut, and here again a difference may exist. For instance, in the Netherlands never-married older women have had relatively successful occupational careers, which could lead to a relatively favourable financial situation in old age, whereas never-married men had relatively unsuccessful careers, leading to a less favourable financial position (Dykstra & Liefbroer, 1995).

Age differences in socio-economic resources can also be expected, resulting from both age-specific and cohort-specific causes. Income levels usually drop after retirement (Pampel & Hardy, 1994), and elderly might be expected to show some dissaving in old age, for instance by selling their home and consuming (part of) the returns, resulting in a somewhat less positive socio-economic situation as they age. However, age differences in socio-economic resources in old age also partly reflect cohort changes in economic circumstance. For instance, De Boer, Hooimeijer, and Klaus (1995) show a clear increase in home ownership across subsequent cohorts of older adults.

People's capability to establish and maintain a satisfying network of personal relationships is not only influenced by one's socio-economic resources, but also by one's *health* situation (Arber & Ginn, 1991). With regard to differences in physical resources, it is well-documented that health, whether reported subjectively or measured objectively, decreases with age (Baltes, Mayr, Borchelt, Maas, & Wilms, 1993; De Jong Gierveld, Dykstra, & Beekink, 1994; Manton & Soldo, 1992; Steinhagen-Thiessen & Borchelt, 1993; Timmermans, 1993). However, detailed information on age differences and on differences according to living arrangement is often lacking (De Jong Gierveld *et al.*, 1994; Timmermans, 1993). Furthermore, it is not well known to what extent subjective reports on health and functional measures of health show the same age patterns.

Design of the study

Respondents

In 1992, face-to-face interviews were conducted with 4494 respondents. They constituted a stratified random sample of men and women born in the years 1903 to 1937. The random sample was taken from the registers of 11 municipalities: the city of Amsterdam and two rural communities in the west, one city and two rural communities in the south, and one city and four rural communities in the east of the Netherlands. The response was 61.7 per cent. The data were collected by 88 interviewers.

The average age of the respondents was 72.8. Most were living in their own homes: 1298 (28.9%) were not married and lived alone, 2582 (57.5%) lived with a partner, and 206 (4.6%) lived in another kind of multi-person household. Finally, 351 (7.8%) lived in an institution of some sort, such as a nursing home, a home for the aged, psychiatric hospital, or shelter for the homeless.

Procedure and measures

We will start with an age-specific description of the current *living arrangements* of the elderly who have been interviewed in the NESTOR-LSN survey. To this end, five categories have been distinguished, namely family households in which a respondent lives (1) with a partner, or (2) with a partner and one or more children, (3) one-person households, (4) institutional households, and (5) other households. This last category includes for instance co-residence of brothers and sisters, and elderly who live with their children. Because it is well-known that the living arrangements of elderly men and women are very different, these are described for both sexes separately.

Next, we will examine *cohort* changes in living arrangements of older adults by comparing the living arrangements of successive cohorts at age 45, age 60, and age 75. This information is based on the extensive life-history module that was incorporated in the NESTOR-LSN survey. From the life-history information the complete household history of respondents can be reconstructed. A comparison of some key measures based on this retrospective information with information derived from Dutch Censuses performed by

Liefbroer and De Jong Gierveld (1995) shows that the retrospective information from the NESTOR-LSN survey is quite accurate.

Next, *differences in socio-economic resources* among the elderly will be analysed. We will focus on three indicators of the availability of socio-economic resources, namely level of education, net household income, and home ownership. The main importance of *level of education* in old age hinges on its 'convertibility'. It can be used to acquire material resources and it might signal the availability of social skills that can be used to attain valuable life-goals. Respondents were asked about the highest educational grade they had attained. To enhance comparability, we calculated the number of years of education it would have taken to attain this grade, taking the shortest route possible.

No detailed information on *net household income* is available in the NESTOR-LSN survey. However, a global indication of household income has been obtained by showing respondents a card with income classes. For each class both the net monthly and the corresponding net yearly income was given. Respondents were requested to indicate the number corresponding to their income class. For incomes up to f 2500 the width of classes was f 250, between f 2500 and f 5000 the class width was f 500. We converted this information into a 'quasi'-interval scale by arbitrarily assigning to incomes within each class the median income of this class. Household incomes above f 5000 were arbitrarily assigned an income of f 5750. The next step was to make household incomes of elderly in one person households comparable to those of elderly in households including a partner. To do so we used a simple family equivalence factor, by multiplying income of households with a partner by a factor of 0.7 (Schiepers, 1988). Given the very global nature of the income information, and given the difficulty in comparing income information for households with different sizes, these data will only permit us to obtain a very global idea of differences in household income.

Home ownership among the elderly is important in at least two ways. Firstly, it means having a long-term investment to be converted into cash money if the need arises. Secondly, at least if there is no or only a small mortgage left, it implies having to spend only a small part of one's income on housing. However, the costs of property maintenance may still be substantial.

Finally, differences in *health* measures according to sex, age, and partner status will be analysed. Five different health measures were used, three based

on the respondents' subjective assessment of their own health, and two inquiring into the functional capacities of the respondents.

Respondents were asked to assess, on a five point scale, their *health in general*, their *health compared to age peers*, and their *health compared to their health ten years ago*. The questions posed, and the range of the answering categories were:

- 'How is your health in general (*poor to very good*)?'
- 'How is your health compared to that of other people of your age (*much poorer to much better*)?'
- 'How is your health now in comparison to what it was like ten years ago (*much poorer to much better*)?'

The extent to which respondents could perform important *activities of daily living* (ADL) was assessed by asking them to what extent they could still walk up and down the stairs, walk outdoors for five minutes, stand up from and sit down in a chair, and dress and undress. Answering categories for each item ran from 'not at all' to 'without difficulty'. Together these items formed a good Mokken scale (Loevinger's $H = .54$ and reliability $\rho = .70$) (Mokken, 1971).

The extent to which respondents could perform important *instrumental activities of daily living* (IADL) was assessed by asking to what extent they could shop for their daily groceries, prepare hot meals, change bed sheets, do the laundry, and clean house. Again, the answering categories ran from 'not at all' to 'without any difficulty'. Together these items formed a reasonable Mokken scale (Loevinger's $H = .45$ and reliability $\rho = .86$).

We will assess age and sex differences in socio-economic and physical resources, but also focus on differences between the elderly with different living arrangements. The main emphasis will be on differences between respondents who live with a partner —with or without children— and respondents who live on their own. Institutionalized respondents are excluded from the analysis, because many of them have not answered all the questions. Respondents in 'other' types of households are excluded because they constitute only a small minority of all respondents. Respondents who are living on their own are subcategorized according to their marital status, because —as was suggested in the introduction— there might be important differences in resources between the widowed, divorced and never-married.

The analyses are presented separately for both sexes, because the effects of living arrangements and age may be different for men and women.

Differences in socio-economic and physical resources will be analysed using Multiple Classification Analysis. This type of analysis is well-suited to examine subgroup differences, when the dependent variable, such as years of education or net income, is continuous. The results of the analysis show how much each category of older adults deviates from the overall mean in their resources.¹

Results

Current living arrangements

To begin with, *Figures 2.1* and *2.2* show the distribution of men and women in different age categories across living arrangements. Figure 2.1 shows that more than 80 per cent of the men under age 75 live with a partner. Among the 'youngest' old, many of these couples have children in the household as well, but this category decreases rapidly in size among older age groups. After age 75 the proportion of men living with a partner decreases, but of the men between 85 and 89 years of age still almost half lives with a partner. The proportion of elderly men living in a one-person household is quite stable around ten per cent until age 80, but increases to about 30 per cent among the oldest age group. Among the oldest men there is also a sharp increase in the proportion living in institutions.

A comparison of Figures 2.1 and 2.2 shows that the age structure of household composition among women differs substantially from that among men. This is not yet the case for the youngest age group: the main difference is that the percentage of women who live alone is somewhat higher. However, from age 60 onwards the patterns of men and women begin to diverge. Two main reasons for this are (a) the large surplus mortality among men, and (b) the higher age of men at marriage. Both enhance the chance that wives outlive

¹ MCA results are presented for home ownership also, although home ownership is a discrete variable, and therefore logistic regression or loglinear analysis would be preferable from a statistical point of view. We present MCA-results, because we prefer uniformity in presentation. However, using logistic regression analysis would not alter the results in any substantial way.

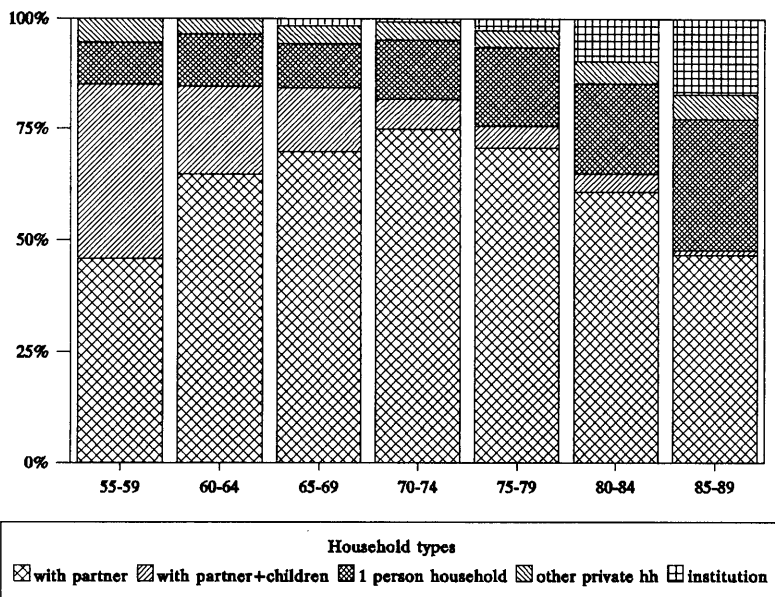


Figure 2.1. Household composition of elderly men by age

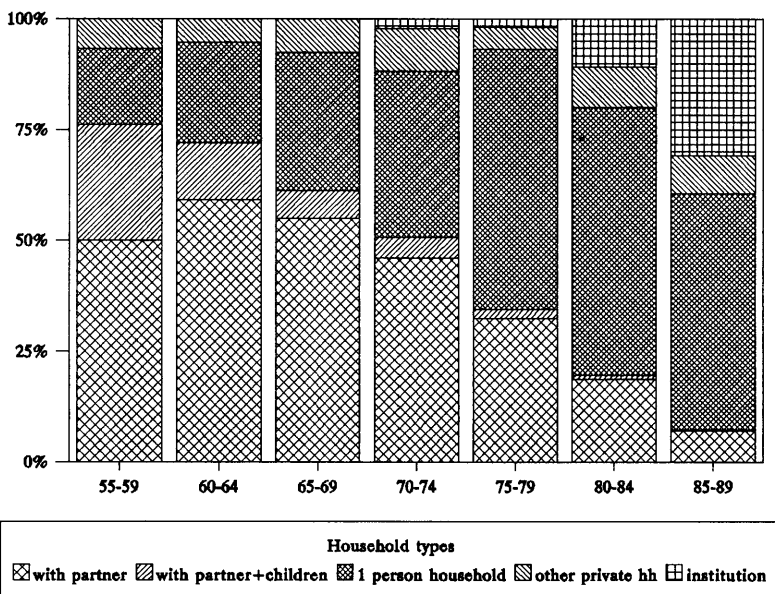


Figure 2.2. Household composition of elderly women by age

their husbands. As a result, the proportion of women who live with a partner decreases much faster by age than among men. Complementarily, the proportion living on their own increases much faster among women than among men.

Cohort changes in living arrangements

The distribution across living arrangements of respondents from successive birth cohorts at ages 45, 60, and 75 is shown in *Table 2.1*, separately for men and women. A number of observations can be made from *Table 2.1*. First, at age 45, hardly any people live with 'others', that is with people who are neither their partner nor their child, and hardly any people are living in an institution either. Second, both among men and women, the proportion of people living alone at age 45 is relatively high among the oldest cohorts, then decreases somewhat, and then rises again among the youngest cohorts. Third, the opposite pattern is found with regard to the proportion of people living with a partner and children at age 45. This proportion is rather low among the oldest cohorts, then rises somewhat, and falls again among the youngest cohorts. Fourth, the proportion of women living with children at age 45 is surprisingly high among the oldest cohorts.

At the age of 60, the most noticeable cohort changes are (a) the decline of households with both a partner and children, (b) the rise of the proportion of households with both partners only, and (c) the early drop and later rise of the proportion of men and women living on their own. These trends can be observed both among men and women. They confirm the trend towards the earlier start of the empty nest phase and the greater incidence of one-person households.

At age 75, the situation seems to be quite stable among men. In each of the three birth cohorts who have reached this age by 1992 the distribution across household types is about the same. This is not true for women. Among women, the proportion living on their own is highest among the youngest cohort, and the percentage of women living with children, with others, or in an institution is lowest. This suggests a continuing trend towards living on their own among elderly women.

Table 2.1. *Living arrangements at age 45, 60, and 75, by sex and birth cohort (in percentages)*

Birth cohort	Men (n = 1902)						Women (n = 1938)					
	alone	with a partner	with a partner and child(ren)	with child(ren)	with others	in an institution	alone	with a partner	with a partner and child(ren)	with children	with others	in an institution
Living arrangement at age 45												
1903-07	2.7	14.0	80.2	1.9	0.8	0.4	3.4	15.8	66.2	11.9	1.2	1.5
1908-12	1.5	14.5	80.1	2.4	1.1	0.3	3.8	12.0	76.9	5.4	1.6	0.3
1913-17	1.2	8.5	88.8	1.5	0.0	0.0	1.3	8.4	83.4	4.9	1.6	0.4
1918-22	1.1	9.8	85.3	1.6	2.1	0.0	0.9	12.2	82.2	3.3	1.4	0.0
1923-27	0.4	9.1	89.2	1.3	0.0	0.0	1.5	10.5	81.5	6.0	0.5	0.0
1928-32	3.0	7.6	85.6	3.0	0.8	0.0	3.4	10.9	79.8	5.5	0.4	0.0
1933-37	2.1	8.8	85.5	3.3	0.4	0.0	4.5	11.0	77.9	6.3	0.4	0.0
Living arrangement at age 60												
1903-07	5.3	39.8	52.6	1.9	0.0	0.4	18.2	34.5	32.4	11.4	2.1	1.5
1908-12	1.3	47.2	49.6	1.7	0.3	0.0	10.3	46.6	33.3	7.6	2.0	0.3
1913-17	2.7	43.7	51.5	2.1	0.0	0.0	13.0	52.0	28.8	5.2	0.7	0.4
1918-22	5.0	48.3	44.7	1.4	0.7	0.5	11.2	52.8	30.9	4.8	0.0	0.3
1923-27	2.4	54.9	39.9	1.8	0.5	0.0	12.2	52.4	26.2	8.5	0.6	0.0
1928-32	9.6	57.2	31.4	1.8	0.0	0.0	17.8	60.3	17.3	4.7	0.0	0.0
Living arrangement at age 75												
1903-07	12.5	76.0	8.2	1.5	0.8	1.1	46.5	33.0	4.4	7.0	2.9	6.2
1908-12	10.4	78.0	8.2	1.2	0.5	1.6	46.5	40.9	3.6	5.7	1.9	1.5
1913-17	10.6	77.2	8.9	1.3	0.9	1.0	52.8	37.7	3.3	3.8	1.3	1.2

Availability of socio-economic resources

In Table 2.2, differences in socio-economic resources according to age, marital status, and sex are shown. Each column gives the general mean, and next, for each designated category, the deviation from that mean. For instance, the first column shows that men have spent a mean number of 9.4 years in education. However, men who are between 55 and 59 years of age have spent .7 years more in education, whereas men who are between 85 and 89 years of age have spent .5 years less in education.

Table 2.2. Results from Multiple Classification Analyses, regressing education, income, and home ownership on age and marital status, separately for men and women (effects shown as deviations from the grand mean)

	Education (in years)		Net income (in guilders)		Home ownership (in percentages)	
	men	women	men	women	men	women
Grand mean	9.4	8.0	2043	1859	36	31
Age group						
55-59	.7	.7	405	265	19	18
60-64	.8	.4	285	116	13	7
65-69	.3	-.1	-3	-45	3	2
70-74	-.3	-.0	-70	-58	-4	-5
75-79	-.5	-.4	-189	-126	-7	-5
80-84	-.3	-.4	-193	-54	-9	-9
85-89	-.5	-.2	-198	-106	-12	-10
β	.15*	.13*	.24*	.15*	.23*	.20*
Marital status						
Single, never-married	-.8	2.0	-83	258	3	2
Single, divorced	-.5	1.2	-119	-128	-28	-20
Single, widowed	-.4	-.3	235	-94	-5	-11
Married ^a	.1	-.1	-25	54	2	9
β	.07	.20*	.09*	.11*	.12*	.22*
Adjusted R^2	.03	.06	.06	.04	.07	.12

* $p < .01$.

^a Includes respondents who cohabit unmarried.

The first two columns show differences in *years spent in education*. In general, men have attained higher educational levels than women (9.4 versus 8.0 years). For both sexes, the educational attainment of the 'younger old' is higher than that of the 'older old'. Among men, the differences according to marital status are relatively small, with the never-married who live alone having spent the smallest number of years in education. Among women, the differences according to marital status are larger. Never-married women have spent relatively many years in education, even compared to men. Divorced women have also attained a relatively high level of education.

The two middle columns of Table 2.2 show differences in *household income*, corrected for differences in household size. As with level of education, the 'younger old' have higher income levels than the 'older old'. However, the age differentials in income are larger among men than among women. Furthermore, the main difference is between people under age 65 and those over that age, which suggests that retirement is one of the important factors at play. There are also large differences between men and women in the effect of marital status on income. Among men, widowers seem to be rather well off. Compared to married men, widowers are better off because their private pensions are independent of their marital status, and thus their relative income is higher if they do not have to share their pension with a partner. Among women, the position of widows is much less fortunate. Many are unlikely to have a pension of their own, only survivors' benefits. Survivors' benefits are lower (usually 5/7th) than full pensions. Furthermore, a number of husbands will have died before the age of 65, leaving their wife with an incomplete pension. Among both sexes, divorced elderly have relatively low incomes, which probably results from the financial arrangements accompanying divorce. The relative position of never-married women and never-married men is again strongly different. Never-married women have the highest income of all women, probably because they have good pension provisions. Many are likely to have worked most of their lives, often in relatively high status and high paying jobs. Never-married men, on the other hand, have not, in general, had very promising careers, and for that reason do not have substantial pensions (Dykstra & Liefbroer, 1995).

The last two columns of Table 2.2 show differences in *home ownership*. As with level of education and income, the rates of home ownership show large decreases with age. Whereas 55 per cent of all males aged 55 to 59 are home owners, this is only 24 per cent among males aged 84 to 89. However, as De Boer *et al.* (1995) make clear, this difference cannot simply be attributed

to age. Cohort changes are at work as well. As with income, divorced elderly occupy a disadvantaged position, with scarcely ten per cent being a home owner. The low percentage of home owners among widowed older adults possibly reflects that some widowed elderly have sold their homes after their partner has died and moved into smaller apartments, often with special provisions for care.

Health

Now we turn to the question of differences in subjective health and functional capacity. Again, a series of Multiple Classification Analyses was performed. This time we analysed the extent to which variation in health measures is related to age, sex, and marital status. The results of these analyses are presented in *Table 2.3*, separately for men and women.

As expected, both subjectively experienced health and functional capacities decline with age. However, there is one exception to this trend. People's evaluation of their own health compared to that of age peers becomes more positive with increasing age. These patterns are similar for men and women.

Although the results in *Table 2.3* show clear age differences for all five health measures, it is not possible to compare the age profiles of these health measures directly, because of the difference in the means and standard deviations of these measures. However, it would be interesting to know to what extent age differences in functional capacities are matched by age differences in subjective health. To allow such a comparison, we standardized respondents' scores on all five measures, and reanalysed the data. The resulting age profiles for all five health measures are shown in *Figure 2.3*.

Figure 2.3 confirms that all health measures, except the evaluation of one's health in comparison to age peers, show a decline with increasing age. It also reveals a contrast between subjective health measures on the one hand, and measures of functional capacity on the other. The decline in functional capacity is much stronger than the health decline as subjectively experienced by people.

The impact of marital status on physical resources differs strongly for men and women. Among women, there is hardly any difference in health status between married, divorced, widowed, and never-married older adults.

Table 2.3. Results from Multiple Classification Analyses, regressing health indicators on age and marital status, separately for men and women (effects shown as deviations from the grand mean)

	Health in general		Health compared to age peers		Health compared to 10 years ago		ADL		IADL	
	men	women	men	women	men	women	men	women	men	women
Grand mean	3.70	3.64	3.56	3.43	2.56	2.55	19.1	18.7	13.9	17.7
Age group										
55-59	.03	.21	-.33	-.19	.11	.23	.5	.9	1.8	1.4
60-64	.18	.08	-.14	-.05	.22	.11	.6	.8	1.8	1.4
65-69	.09	.05	-.16	-.14	.19	.03	.4	.5	1.4	1.1
70-74	.08	.00	.04	-.02	-.01	.12	.2	.0	.7	.4
75-79	-.13	-.20	.04	.00	-.08	-.11	-.0	-.3	-.7	-.3
80-84	-.10	-.10	.23	.17	-.20	-.21	-.5	-.9	-1.5	-1.6
85-89	-.12	-.06	.33	.39	-.21	-.24	-1.4	-1.7	-3.5	-3.9
β	.12*	.14*	.21*	.18*	.18*	.17*	.29*	.33*	.30*	.42*
Marital status										
Single, never-married	-.33	-.03	-.17	-.13	.14	-.01	-.9	.2	-.1	.2
Single, divorced	-.26	-.10	.26	.08	-.06	.12	-.7	-.1	3.1	.1
Single, widowed	.11	-.02	.12	.03	.01	-.05	.3	-.0	2.0	-.2
Married ^a	.01	.03	-.02	-.01	.00	.02	.0	.0	-.4	.1
β	.10*	.04	.07	.04	.03	.05	.11*	.02	.16*	.03
Adjusted R^2	.02	.03	.05	.04	.03	.04	.09	.11	.10	.19

* $p < .01$.

^a Includes respondents who cohabit unmarried.

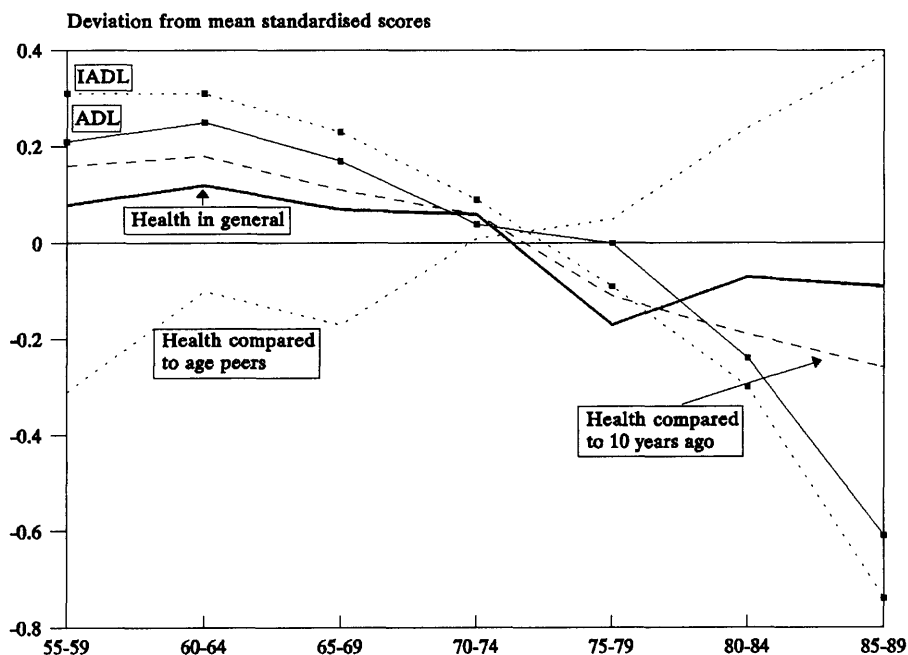


Figure 2.3. Age profiles for selected subjective health and functional capacity measures

This is not true for men. Widowers stand out positively on both the subjective and the functional health measures, whereas never-married men, in general, stand out negatively. Divorced men show poor health in general on the one hand, but on the other hand they have relatively high IADL and a favourable evaluation of their health in comparison to that of age peers.

Conclusion

This chapter had two aims. The first was to examine the living arrangements of older adults, and the extent to which these living arrangements change as a function of aging and cohort replacement. The second aim was to examine the differential access of the elderly to socio-economic and physical resources.

Not surprisingly, the living arrangements of elderly change as they age. Living with children becomes much less common with increasing age. Living with a partner becomes less common as well, albeit at later ages, and much more pronounced among women than among men. Mainly as a result of

differential mortality between men and women, women are much more likely than men to live in a one-person household in old age and also much more likely to experience institutionalization.

A cohort analysis of changes in living arrangements based on retrospective data shows that cohort changes are also visible. Among the 'oldest old', institutionalization is becoming less prevalent. This is not surprising, given that the Dutch government has been implementing a policy to reduce the percentage of the elderly in institutions since the mid-1970's. Among the 'younger old' living with children only, presumably as a result of increasing divorce rates, is becoming somewhat more widespread. Living with a partner and children is becoming less prevalent among the elderly, presumably because younger cohorts have fewer children and because the children leave the parental home somewhat earlier than among older cohorts. This trend is matched by an increase in living with a partner only. Finally, living alone, even at such 'early' age as age 60, is becoming more widespread, again mainly as a result of increasing divorce rates. Since 1971, obtaining a divorce in the Netherlands has become much easier than it used to be. Especially 'younger' cohorts will have 'profited' from this relaxation in the legislation on divorce. These results suggest that the time spent by elderly in one-person households is likely to extend further in the near future as younger cohorts with higher risks of living alone enter old age.

With regard to socio-economic resources, there are clear age differences, with older age groups generally being in a less advantageous situation than younger ones. This is true with regard to level of education, household income, and home ownership. The data do not offer the possibility to disentangle age and cohort effects. It seems likely that the difference between age groups in level of education represents largely a cohort effect. The same seems, at least partly, true for home ownership (De Boer *et al.*, 1995). The situation is much more complex with regard to household income. An age effect, or rather a retirement effect, is certainly visible, given the large differences in income between elderly of pre- and post-retirement ages.

With regard to marital status, it seems that the divorced elderly are particularly disadvantaged, as are the never-married men. However, never-married women fare pretty well. This can be attributed to their relatively favourable employment records (Dykstra & Liefbroer, 1995).

Both functional and subjective health measures show declines with age. However, these declines are gradual, and do not show any strong decreases until age 75. Furthermore, declines are much more noticeable in functional capacity than in subjective health. One subjective health measure, namely health compared to age peers, even becomes more favourable among older age groups. This suggests that people's standards of reference in evaluating their health change as they grow older. Elderly seem to take some loss of physical resources for granted as part of 'normal' aging. A decline in subjective health might indicate mainly to what extent elderly feel that the actual decline in health exceeds what they expect on the basis of their own script of 'normal' aging (Hagestad & Neugarten, 1985; Heckhausen, 1990).

Health differences according to marital status do not exist among women, but are present among men. However, the patterns are not easy to interpret. Never-married men seem to be somewhat less healthy than others, both on subjective and functional health measures. However, this could be related either to their lifestyle as an unmarried person, or to the selection of specific people into the category of never-married elderly. Divorced elderly evaluate their health in general somewhat less favourable than others. However, their IADL-scores are rather positive, suggesting that they have become rather self-reliant during the course of their lives.

We would like to conclude with three observations. The first is that these results show the need for research that is able to disentangle age and cohort effects. Only then will it be possible to estimate the 'net' impact of aging on whatever process one is interested in. Some of our results indicate that cohort effects are important, but only with regard to changes in living arrangements were we able to actually disentangle these effects. The second observation is that more attention needs to be paid to the impact of marital status on resources in old age, and in particular to the differential impact of marital status for both sexes. Thirdly, these results reflect the existence of large differences in living conditions between age groups, between men and women, and between older adults in different living arrangements. Given these large differences, specific attention to differences according to age, sex, and living arrangements in the subsequent chapters of this book is warranted.

References

- Arber, S. & Ginn, J. (1991). *Gender and later life. A sociological analysis of resources and constraints*. London: Sage.
- Baltes, M.M., Mayr, U., Borchelt, M., Maas, I., & Wilms, H.U. (1993). Everyday competence in old and very old age: An inter-disciplinary perspective. *Ageing and Society*, 13, 657-680.
- Boer, A. de, Hooimeijer, P., & Klaus, J. (1995). Waar is de mature market in Nederland? [Where is the mature market in the Netherlands?] *Rooilijn*, 28, 112-118.
- Burch, T.K. & Matthews, B.J. (1987). Household formation in developed countries. *Population and Development Review*, 13, 495-511.
- Dykstra, P.A. & Liefbroer, A.C. (in press). Maatschappelijk aanzien van ouderen: De invloed van sociale herkomst, arbeidsomstandigheden en gezinssituatie [Social prestige of older adults: The impact of social background, occupational opportunities, and family situation]. In B. Nitsche (Ed.), *Ouderen, wetenschap en beleid II*. Utrecht, NIG.
- Elder, G.H. Jr. (1987). Families and lives: Some developments in life-course studies. *Journal of Family History*, 12, 179-199.
- Grebenik, E., Höhn, C., & Mackensen, R. (Eds.) (1989). *Later phases of the family life cycle: Demographic aspects*. Oxford: Clarendon Press.
- Hagestad, G.O. & Neugarten, B.L. (1985). Age and the life course. In R.H. Binstock & E. Shanas (Eds.), *Handbook of aging and the social sciences, volume 2* (pp. 35-61). New York: Van Nostrand Reinhold.
- Heckhausen, J. (1990). Erwerb und Funktion normativer Vorstellungen über den Lebenslauf [Acquisition and functioning of normative beliefs concerning the life course]. In K.U. Mayer (Ed.), *Lebensverläufe und sozialer Wandel* (pp. 351-373). Kölner Zeitschrift für Soziologie und Sozialpsychologie, Sonderheft 31.
- Jong Gierveld, J. de, Dykstra, P.A., & Beekink, E. (1994). A growing challenge: The very old. In *Population growth and demographic structure* (pp. 295-324). Proceedings of the United Nations Expert Group Meeting on Population Growth and Demographic Structure, Paris, 16-20 November 1993 (convened in preparation for the International Conference on Population and Development, Cairo, 5-13 September, 1994).
- Kahn, R.L. & Antonucci, T.C. (1980). Convoys over the life course: Attachments, roles and social support. In P.B. Baltes & O. Brim (Eds.), *Life-span development and behavior. Volume 3* (pp. 253-286). New York: Academic Press.

- Kertzer, D.I. (1986). A life course approach to coresidence. In D.I. Kertzer (Ed.), *Family relations in life course perspective. Current perspectives on aging and the life cycle, volume 2* (pp. 1-22). Greenwich, Conn.: JAI Press.
- Kiernan, K. (1989). The departure of children. In E. Grebenik, C. Höhn, & R. Mackensen (Eds.), *Later phases of the family life cycle: Demographic aspects* (pp. 120-144). Oxford: Clarendon Press.
- Kobrin, F.E. (1976). The fall in household size and the rise of the primary individual in the United States. *Demography*, 13, 127-138.
- Liefbroer, A.C. & Jong Gierveld, J. de (1995). Standardization and individualization: The transition from youth to adulthood among cohorts born between 1903 and 1965. In J.C. van den Brekel & F. Deven (Eds.), *Population and family in the Low Countries 1994* (pp. 57-80). Dordrecht: Kluwer Academic Publishers.
- Manton, K.G. & Soldo, B.J. (1992). Disability and mortality among the oldest old: Implications for current and future health and long-term-care service needs. In R.M. Suzman, D.P. Willis & K.G. Manton (Eds.), *The oldest old* (pp. 199-250). New York: Oxford University Press.
- Marsh, C. & Arber, S. (1992). Research on families and households in modern Britain: An introductory essay. In C. Marsh & S. Arber (Eds.), *Families and households. Division and change* (pp. 1-25). London: MacMillan.
- Mayer, K.U. & Schwarz, K. (1989). The process of leaving the parental home: Some German data. In E. Grebenik, C. Höhn, & R. Mackensen (Eds.), *Later phases of the family life cycle: Demographic aspects* (pp. 145-163). Oxford: Clarendon Press.
- Mayer, K.U. & Wagner, M. (1993). Socio-economic resources and differential ageing. *Ageing and Society*, 13, 483-516.
- Mokken, R.J. (1971). *A theory and procedure of scale analysis*. Paris/The Hague: Mouton.
- Mutchler, J.E. & Burr, J.A. (1991). A longitudinal analysis of household and nonhousehold living arrangements in later life. *Demography*, 28, 375-390.
- Pampel, F.C. (1983). Changes in the propensity to live alone: Evidence from consecutive cross-sectional surveys, 1960-1976. *Demography*, 20, 433-447.
- Pampel, F.C. & Hardy, M. (1994). Status maintenance and change during old age. *Social Forces*, 73, 289-314.
- Schiepers, J.M.P. (1988). Huishoudensequivalentiefactoren volgens de budgetverdelings-methode [Family equivalence scales using the budget

- distribution method]. *Supplement bij de Sociaal-economische Maandstatistiek*, (2), 28-36.
- Solinge, H. van (1994). Living arrangements of non-married elderly people in the Netherlands in 1990. *Ageing and Society*, 14, 219-236.
- Steinhagen-Thiessen, E., & Borchelt, M. (1993). Health differences in advanced old age. *Ageing and Society*, 13, 619-656.
- Timmermans, J.M. (1993). *Rapportage ouderen 1993* [Report on older adults 1993]. Rijswijk: Sociaal en Cultureel Planbureau.
- Treas, J. & Bengtson, V.L. (1982). The demography of mid- and late-life transitions. *The Annals of the American Academy of Political and Social Science*, 464, 11-21.
- Wall, R. (1989). The residence patterns of elderly in Europe in the 1980s. In E. Grebenik, C. Höhn, & R. Mackensen (Eds.), *Later phases of the family life cycle: Demographic aspects* (pp. 222-244). Oxford: Clarendon Press.
- Willekens, F. (1988). A life course perspective on household dynamics. In N. Keilman, A. Kuijsten & A. Vossen (Eds.), *Modelling household formation and dissolution* (pp. 87-107). Oxford: Clarendon Press.

THE AVAILABILITY AND INTERGENERATIONAL STRUCTURE OF FAMILY RELATIONSHIPS

Pearl Dykstra and Kees Knipscheer

For many decades after Parsons (1943) launched his nuclear family theory, family research was preoccupied with the viability of the modern family. Theorists assumed that disintegration of the family was an unavoidable result of industrialization and urbanization. Mancini and Blieszner (1989) summarize the argument as follows: 'scientists such as Wirth, Park, and Burgess believed that the diversity of urban life necessarily weakened primary relationship cohesion and that the accompanying social and geographic mobility was not compatible with extended family relationships' (p. 278). Many studies focused on the question of whether members of different family generations were becoming estranged and isolated from one another, and more generally, whether families were disintegrating. Mancini and Blieszner comment; 'Unfortunately, research continues to pursue this line of work, even though the question has long been answered'. Research has repeatedly confirmed that older adults are not alienated from their families (Troll, Miller, & Atchley, 1979).

The present chapter examines family relationships in the Netherlands. It is organized as follows. First, we describe the general demographic and social changes which were evident in recent decades and that have had an impact on the multigenerational structure of families. Next, using data from the NESTOR-LSN survey we describe the generational structure of later-life families. In what follows, we look more closely at the availability of different types of family relationships (parents, siblings, children, grandchildren and greatgrandchildren), and analyse interaction patterns. Our analyses of the levels of interaction with siblings and children specifically consider the structure of the families in which these relationships are embedded.

Structural changes in family relationships

One of the major demographic changes during the 20th century has been the genesis of the multigenerational family as a statistically normative phenomenon. It is no longer uncommon that family members of three, four and five different generations are alive simultaneously. This development is of course linked with the increases in life expectancy since the beginning of this century. Estimates indicate that, of those born in the Netherlands in 1980, about 30% had a living great grandmother in 1991 (Langeveld, 1985); of those over the age of 60 in France, one third belonged to a four-generation family (Paillat, Attias-Donfut, Clement & Delbes, 1989).

If one takes parent-child relationships as the key-linkages or building blocks of the multigenerational family (Hagestad, 1984), then multi-generational families are built up of multiple 'overlapping' parent-child relationships. These overlapping relationships are the units constituting the typical intergenerational concern and commitment within the modern family.

The increasing proportions of multigenerational relationships are not the only structural change visible in late twentieth century families in industrialized societies. We would like to draw attention to three other characteristics of aging families.

Verticalization. Not only has the number of generations within families changed, but also the shape of the multigenerational family has become different. The original pyramidal structure, where few generations are alive at the same time and where the members of the younger generations outnumber those in the older generations, has become a vertical structure with several generations of similar sizes and a small top-generation.

The verticalization of the multigenerational family is the result of two recent changes. First, an *intra*-generational contraction has taken place in connection with the decreasing birth rate in the twentieth century. There is a contraction in the number of horizontal family links: fewer members per generation in a family. This trend is consistent across most western industrialized countries. The second change which led toward the verticalization of the family is the large *inter*-generational extension that has taken place as the result of decreasing mortality. There are more generations per family. Bengtson, Cutler, Mangen, and Marshall (1985) showed that in the early eighties in the United States, 38% of people aged 65 and over had families consisting of

three generations, and another 36% four generations. Starting with the youngest generation, Uhlenberg (1980) demonstrated, for the United States, that under 1900 mortality conditions, only one-fourth of the children would have all grandparents alive at birth; by 1976 it actually was almost two-thirds. The probability of three or four grandparents alive when the child was 15 years old increased from 0.17 to 0.55 (Watkins, Menken, & Bongaarts, 1987).

Verticalization is also evident in the interactions among family members. Interactions across generations have increased, while those within generations have decreased in frequency and intensity (Cicirelli, 1982; White & Riedmann, 1992), changes which are of course linked with the changing intergenerational structure. Knipscheer (1980) demonstrated that the intensity of intragenerational contact within families depends upon the availability of intergenerational family ties. Using data on the frequency of interaction, intimacy, and the exchange of instrumental support, he showed that older siblings (65+) in the Netherlands interact infrequently unless one of the siblings is childless.

Economic independency between generations. Several studies have described the substantial changes in the dependency relationships between the generations within the family (e.g. Bengtson & Treas, 1980; Cherlin & Furstenberg, 1985; Knipscheer, 1986; De Regt, 1993). Parents' dependency on their children has diminished with the introduction of general pension systems, and the expansion of private pensions and social services. The customary principle that one must look after one's parents has lost much of its impact, although there are large differences between countries in this respect (Council of Europe, 1984; for the Netherlands see De Regt, 1993; for the United States see Callahan, 1985; Ruffin, 1984). Nevertheless, there is ample evidence of economic interdependence, as for example in studies reporting that parents continue to provide financial support to their adult children (e.g. down payment on a house, the first car). In recent decades, relationship quality has gained importance over financial and material obligations as the basis for intergenerational interactions (Hagestad, 1992; Knipscheer, 1990). The desire for intergenerational independence is reported in attitude surveys. For example, older adults' responses to questions pertaining to housing preferences and care arrangements in the 1994 Population Policy Acceptance Survey conducted in the Netherlands (Moors, Beets, & Van den Brekel, 1995) show a general unwillingness to become dependent upon adult children. Younger respondents, when asked about their

ideas about life in old age, also indicate a preference to continue living on their own and to be cared for by professionals when the need arises.

Living arrangements. When Lasslet (1965) published his famous study *The world we have lost*, his concern was primarily with the three generation household. He identified a nostalgia for the earlier three generation family in western European family ideology: all family members living under one roof, in one household; a picture of family integration and harmony. On the basis of detailed studies of the household situation in England in the sixteenth and seventeenth century, Lasslett and his team of historical demographers concluded that the idealized family household was a myth (Wall, 1995). Children who married and started a family of their established their own households. Children who did not marry remained with their parents. Some did not marry until after the death of their parents. The nostalgia for the idealized three generation household is rather persistent, however. According to Laslett, this persistence indicates 'a world we have lost syndrome'. He calls it a syndrome because it keeps people under the spell of a family pattern, which in the western European world has always been more of an exception than a rule.

Industrialization and urbanization have changed the family, and in people's minds it has moved away from the earlier idealized pattern. Since the second World War the size of households has decreased rapidly (Kobrin, 1976; Wolf, 1990). This is attributed not only to the decline in fertility, but also to preferences on the part of adult children —married or not— and their elderly parents to live on their own (Burch & Matthews, 1987; Pampel, 1983). Particularly striking is the increase in the number, both relatively and absolutely, of older adults living alone. In 1960 in the Netherlands (Prins, 1990), nine per cent of males aged 65 and over, and 23% of women in that age category lived alone. In 1971 the figures had risen to 10 and 28%, and in 1987 they were 15 and 41%, for males and females respectively. According to recent estimates (De Beer, De Jong, & Visser, 1993), 22% of males and 44% of females aged 60 and over are living alone.

The previously described structural changes in the family have important implications for family life (Bumpass, 1990). Members of the youngest and the oldest generations may be 50 up to 80 years apart, most are not tied by common economic interests, and neither are they situated in the same local community. Daily interaction is no longer the dominant form of communication. However, in general, frequent contacts and interactions have been

maintained (Dooghe, 1970; Knipscheer, 1990; Mancini & Blieszner, 1989). Most families are characterized by regular visiting patterns. There is much concern for and interest in each other's well-being. In case of need there appears to be a strong willingness to support each other. In conclusion, there is less involvement in each others daily life but a high degree of reciprocal concern. Though this general pattern of family life has been confirmed repeatedly in research in different countries, the level of interaction and reciprocity tends to vary considerably across families. Some families are more cohesive, others more individualistic. In addition, the composition of families has become more diverse because of divorce and/or remarriage of family members, because of a conscious decision not to marry or to remain childless (Riley, 1983).

Design of the study

Though the *general* trends influencing family structure are well-known, there is little information on their implications at the micro level. In this chapter we will explore the variability in the intergenerational composition of the Dutch family networks. Up to now information on the structure of Dutch family networks has been scarcely available (Langeveld, 1985) and based on estimates only. The NESTOR-LSN study is the first to produce basic, descriptive information on family composition in the Netherlands.

In this chapter, the respondents serve as the anchor-points of the family networks. As mentioned earlier, we will start with a description of the generational structure of late-life families, using information provided by the respondents about the availability of parents, siblings, children, grandchildren and great grandchildren. 'Parents' are the respondent's natural mother and father only. The availability of 'siblings', 'children', 'grandchildren' and 'great grandchildren' is not restricted to blood ties, but also includes adoptive and step relationships. The reason for focusing on a broader category of family relationships is that we are primarily interested in the availability of *potentially supportive* ties rather than fertility per se.

Next, we will consider each generation separately. We will look at the number of surviving family members of a particular generation. With regard to siblings and adult children, we will also look at the levels of interaction, and residential proximity. More particularly, we are interested to know the

number of siblings and adult children with whom contact is relatively frequent, and the number who are living relatively nearby.

To determine the frequency of interaction, for each sibling and child still alive, the question was asked: 'How often are you in touch with him/her (either face-to-face, on the telephone or in writing)?'. Eight answer categories were used, with scores ranging '1' never, to '8' daily. Geographic proximity was measured in terms of travelling time. The respondent was asked, again for each sibling and child still alive, 'How much time does it take you to go and visit him/her (for the means by which you usually travel)?'. Travelling time was measured in minutes.

Not only will we provide descriptive information on the frequency of contact with siblings and with children, but we will also report the results of analyses of determinants of these interactions. We were interested to find out to what extent the frequency of contact among family members varies according to the intergenerational family structure in which the relationships are embedded. The following substantive considerations guided the analyses. The first is the notion of a *preferential hierarchy* within the family, with partner relationships being most preferred, followed by children, parents, and siblings (cf. Cantor, 1979). Frequent interaction with a particular type of relationship is assumed to be less likely if family relationships higher in the hierarchy are present. Thus for example, contact with children is assumed to be less frequent among older adults with a partner than among those who are single. Likewise, contact with siblings is assumed to be less frequent among elderly parents than among the childless.

A second notion focuses on the special functions of parents, and more particularly on parents as *linking pins* within the family. The assumption is that interactions among siblings in particular, are more frequent if parents are still alive. One reason is that the parental home often serves as the locale for family-related rituals, with parents (mothers) as organizers of the social gatherings. Another is that parents themselves may be the focus of contact among siblings: communications are guided by concern about parental welfare.

A third notion concerns *family size*, with the assumption of greater selectivity in large families, which in turn is reflected in lower levels of contact. On the one hand, those with a relatively large number of siblings or a relatively large number of children can 'afford' to be selective, and thus choose for lower

levels of interactions. On the other hand, limits on time and emotional energy may lead to less intensive contact in large families.

Analyses of variance were conducted to examine whether the frequency of contact with siblings was associated with (a) the existence of parents, (b) the number of surviving siblings, (c) the parental status of the anchor-person, (d) the partner status of the anchor-person, and (e) the partner status of the sibling. 'Partner status' refers to the presence or absence of a cohabitant. Furthermore, we examined whether the frequency of contact with children was associated with (a) the existence of the anchor-person's parents, (b) the number of surviving siblings, (c) the number of surviving children, (d) the parental status of the child, (e) the partner status of the anchor-person, and (f) the partner status of the child.

Both analyses controlled for geographic proximity and the anchor-persons' age because they are well-known determinants of the frequency of contact with network members. To avoid problems of interdependence among the data of siblings and children from the same family, one sibling and one child were selected at random. In other words, the analyses were performed on only one sibling or only one child per family. That way family level influences are not confounded with determinants at the dyadic level. Siblings and children who were members of the anchor person's household were excluded.

Respondents

In 1992, face-to-face interviews were conducted with 4494 respondents. They constituted a stratified random sample of men and women born in the years 1903 to 1937. The random sample was taken from the registers of 11 municipalities: the city of Amsterdam and two rural communities in the west, one city and two rural communities in the south, and one city and four rural communities in the east of the Netherlands. The response was 61.7 per cent. The data were collected by 88 interviewers.

The average age of the respondents was 72.8. Most were living in their own homes: 1298 (28.9%) were not married and lived alone, 2582 (57.5%) lived with a partner, and 206 (4.6%) lived in another kind of multi-person household. Finally, 351 (7.8%) lived in an institution of some sort, such as a nursing home, a home for the aged, psychiatric hospital, or shelter for the homeless.

Weights

The data presented in this chapter have been weighted to correct for selective non-response, with the exception of those used in the multivariate analyses. Descriptive data pertaining to the *entire sample* have been weighted in such a way that they are representative of the Dutch population of older adults of 55 years of age and over. These data are controlled for the over-representation of the oldest respondents and the over-representation of males. Descriptive data pertaining to different *age groups* have been controlled for the over-representation of males in the oldest age groups. Within each age category, the proportions of males and females have been made consistent with those at the national level.

Results

Generational family structure

Complete information on the generational structure of their families, that is on the existence of parents, children, grandchildren and great grandchildren, is available for 3780 respondents. How many one-, two-, three-, four-, and five-generation families are there? The findings are summarized in *Table 3.1*.

Older adults are members of *one-generation* families if their parents are no longer alive and if they have no offspring of their own: 11.9% are in this situation. Another 15.2% are members of *two-generation* families, further

Table 3.1. Generational family structure (n = 3780)

	number of generations									
	one	two		three			four			five
parents		*		*			*			*
anchor	*	*	*	*	*	*	*	*	*	*
children		*		*	*	-	*	*	-	*
grandchildren				*	*		*	*	*	*
great grandchildren							*			*
percentage	11.9	1.8	13.4	4.3	49.9	0.4	8.7	9.0	0.1	0.4

- anchor outlived his/her children

distinguished according to the 1.8% where the anchor-person is a member of the youngest generation (i.e. there is no offspring) and the 13.4% where he or she belongs to the oldest generation (i.e. the parents are no longer alive).

54.6% belong to *three-generation* families. Here the most frequently observed structure is the one with the anchor-person as the grandparent, and with surviving children and grandchildren: it applies to 49.9% of older adults. Only a small proportion (0.4%) are in a situation where they, as oldest members of their families, have outlived their children, but do have grandchildren. Another 4.3% are members of the middle generation of a three-generation family.

17.8% are members of *four-generation* families. In 9.0% of these families the anchor-person is the oldest member and each generation has at least one representative. Only a small proportion (0.1%) are in a situation where they, as oldest members of their families, have outlived their children, but do have grandchildren and great grandchildren. Another 8.7% are members of four-generation families, where not they, but their parents are the great grandparents.

Finally, 0.4% are members of *five-generation* families. In these families the anchor-person is the member of the second generation. Apart from the older adults' surviving parents, there are the older adults' children, grandchildren and great grandchildren.

So far, entire families have been taken into consideration. In doing so, we have looked only at whether or not they include members of a particular generation. No attention has yet been paid to differences in the number of family relationships of a particular generation. In what follows, we will examine the generations separately, and broaden our focus to include siblings.

Parents

Given current mortality patterns and the age range of our sample, one expects a considerable number of respondents, particularly those in the youngest age groups, to still have one or two living parents. Data on the survivorship of parents is available for 3780 respondents. Of these, 13.2% have a surviving mother or father, and 1.7% still have two surviving parents. *Table 3.2* shows

Table 3.2. Availability of parents by age, in % (n = 3789)

	age of the respondents						
	55-59	60-64	65-69	70-74	75-79	80-84	85-89
one	32.6	18.1	8.5	4.1	1.3	0.9	0.3
both	5.4	1.5	0.5	0.2	0.3	0.2	-

the differences by age. Not surprisingly, the likelihood that either parent is alive is greatest among the younger respondents. Of those in the 55-59 years of age category, approximately 33 % have at least one parent alive, and more than five per cent still have two living parents. Among those in the oldest age categories (80-89), less than 1 % have at least one parent alive.

Siblings

Several recent studies have confirmed earlier findings about the relatively low level of interaction between siblings. 'Most measures of sibling solidarity are negatively affected by having adult children or a living parent, suggesting that vertical ties occupy center stage in the lives of most adults' (White & Riedmann, 1992). What do the LSN-data show?

First, we look at the availability of brothers and sisters. For 4135 respondents we have information on the number of siblings they ever had and the number still surviving. There are large differences in the number of living siblings: 12.4 % have no siblings, 20.4 % have one, 17.0 % have two, 14.8 % have three, 10.4 % have four, 7.1 % have five, whereas 18.0 % have six or more. Approximately one-fourth of those with no living siblings were only children; they never had brothers or sisters. The previous figures include natural as well as step and adoptive siblings. A large majority of 93.2 % have natural brothers and sisters only, while 4.2 % have no natural siblings but only step or adoptive brothers and sisters.

Additional information on the availability of siblings is presented in *Figure 3.1*. For each of seven age categories, it shows the proportion of respondents who have at least a particular number of siblings. This number varies from one to eight or more. Regardless of the number that is considered, the figure

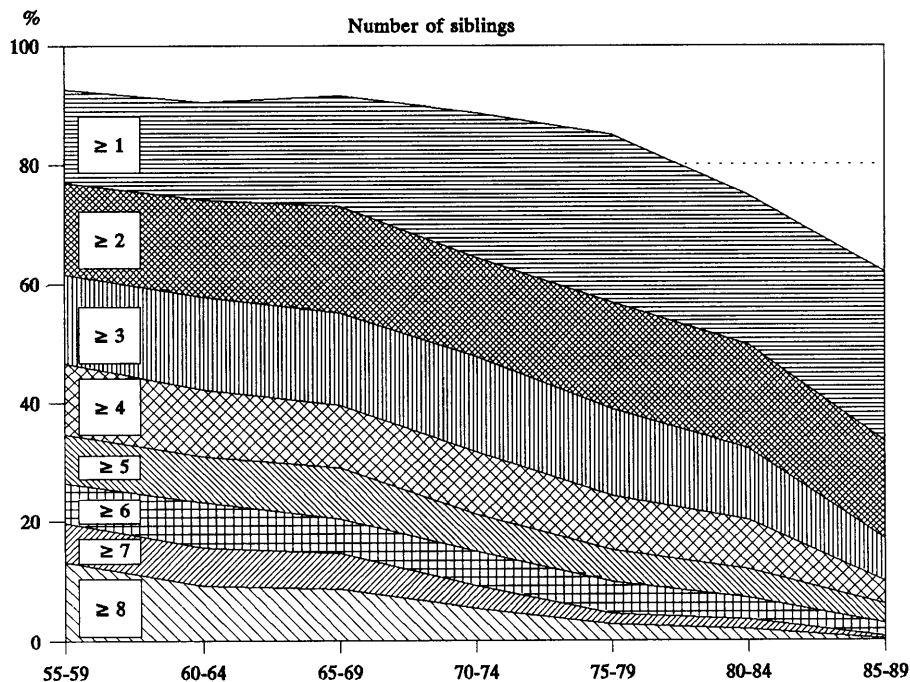


Figure 3.1. Availability of siblings by age ($n = 4135$)

shows a near linear decline in the availability of siblings with increasing age. The youngest respondents are least likely to have a relatively small number of siblings and most likely to have a relatively large number of siblings. The situation for the oldest respondents is the opposite: they are most likely to have relatively few siblings and least likely to have relatively many siblings.

Next, we look at the level of interaction. Of those with living siblings and for whom data on the frequency of interaction is available ($n = 3323$), a considerable number are not in touch frequently with any of their siblings: 61.4% have contact on a less than weekly basis, and 27.6% have no contact with any of their siblings monthly or more often. In contrast stand the respondents who have intensive contacts with a relatively large number of siblings: 3.5% have four or more siblings with whom they interact weekly or more often, and 14.2% have four or more siblings with whom they interact monthly or more often. What information do we have on the geographic dispersion of siblings? Of those with living siblings and for whom relevant data are available ($n = 3243$), 33.0% have none within a 30-minute travelling

distance, 24.1% have one, 14.5% have two, 9.5% have three, while 18.9% have four or more siblings living at that distance. Included in these figures are the number of respondents sharing a household with one or more siblings (1.0% of all older adults).

To what extent do we see differences in the frequency of interaction with siblings that are associated with the intergenerational structure of the families in which these relationships are embedded? The results of an ANOVA based on the data from 3147 respondents indicate that such differences exist (see *Table 3.3*). Controlling for geographic proximity and the age of the anchor-person, the data show that contact with siblings is more frequent if (a) there are few surviving siblings in the family, (b) the older adult is childless, and

Table 3.3. Frequency of interaction (1 = never to 8 = daily) with siblings in association with the generational composition of the family (multiple classification analysis)

	<i>n</i>	deviation ^a	β
parents alive			.02
no	2786	-.01	
yes	361	.08	
# siblings			.11**
1-2	1463	.17	
3-4	885	.00	
≥ 5	799	-.31	
children alive			.05*
no	420	.19	
yes	2727	-.03	
partner status anchor			.07**
single	1123	.16	
cohabiting	2024	-.09	
partner status sibling			.08**
single	950	.23	
cohabiting	2197	-.10	

^a deviation from the grand mean (3.99) adjusted for the covariates and the other independent variables
 $R^2 = 6.5\%$

* $p < .01$, ** $p < .001$.

(c) if either the older adult or the sibling is living without a partner. Whether or not parents are alive makes no difference. Generally speaking, the likelihood that contacts with siblings are activated depends on the availability of other family ties. The fewer the alternatives, the greater the likelihood of frequent interaction.

Children

Information on the number of ever-born children and the number still surviving is available for 4196 respondents. More than 85 % have one or more living children. There is a large variation in the number of children; 10.7 % have only one living child, while 27.2 % have two, 19.0 % have three, 12.1 % have four, 7.5 % have five, and 9.1 % have six or more living children. Most parents (96.0 %) have natural children only; 2.5 % have either step and adoptive children together with natural offspring, and 1.5 % have only step or adoptive children. The category of those without any children consists of respondents who have always been childless (13.4 %) and a small minority of 0.9 % who no longer have surviving children.

Figure 3.2 shows the differences in the number of surviving children for respondents in the different age categories. The youngest (i.e. those under the age of 65) are least likely to have relatively large families consisting of three or more surviving children. Here we see evidence (Verhoef, 1989) of the relatively marked decline in the Netherlands in the average number of births per woman for the birth cohorts 1925-1945, from 2.8 to 2.0 (for postwar cohorts a further decline to approximately 1.7 is expected). The oldest respondents are most likely to be without any children, primarily because rates of childlessness are highest among the oldest cohorts (which in turn is linked with lower proportions ever marrying, Liefbroer & De Jong Gierveld, 1995), and to a lesser extent due to outsurvival.

How intensive is parent-child contact? For 3504 parents we have information on the frequency of contact with their offspring. Only a small number seem to be socially isolated from their offspring: 1.4 % are not in touch monthly or more often and 8.0 % are not in touch weekly or more often with any of their adult children. As *Table 3.4* shows, the respondents are generally well embedded in family life: over 50 % have three or more children with whom they interact monthly or more often, and over 40 % have three or more children with whom they interact at least weekly.

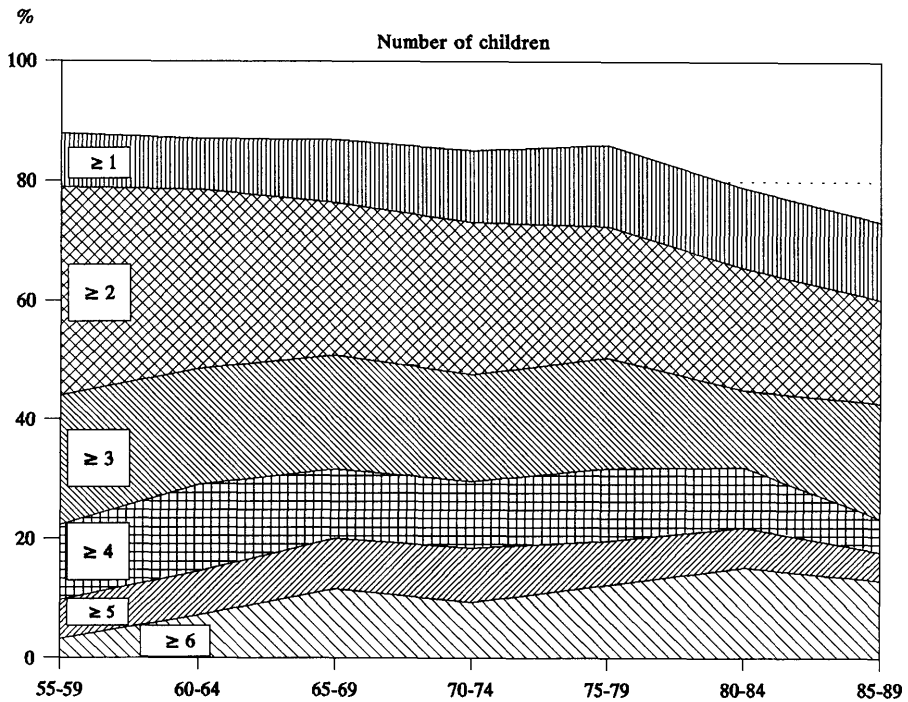


Figure 3.2. Availability of children by age ($n = 4196$)

Table 3.4. Availability of children with whom interaction takes place regularly, in % ($n = 3504$)

	monthly or more often	weekly or more often
# children		
0	1.4	8.0
1	14.4	20.2
2	31.0	31.5
3	22.2	19.2
≥ 4	31.0	21.1

The data also indicate that relatively few older adults are geographically isolated from their offspring. Of those with living children and for whom data on the frequency of interaction is available ($n = 3422$), 14.1% do not have any child living within a 30-minute travelling distance, 24.5% have one, 27.3% have two, 15.6% have three, while 18.5% have four children or more living at that distance.

To what extent is the frequency of interaction with children associated with the availability of family members? At the bivariate level, significant differences in the frequency of contact with children and the generational composition of the family are found. Bivariate analyses show that contact with children is more frequent if one or both of the anchor person's parents are still alive, if the anchor has fewer siblings, if the children have fewer siblings, if the children are parents themselves, if the anchor-person is living with a partner, and if the child is living without a partner. However, all differences but the one for family size, are no longer significant once introduced in a multivariate analysis (see *Table 3.5* for details). ANOVA-results ($n = 2871$) indicate that (apart from geographic proximity and the anchor person's age) family size is the only significant predictor of the frequency of contact with children. The more siblings the child has, the less frequent the contact between the child and the parent (anchor-person) tends to be. This finding suggests that parents and children in small families create special bonds with a high level of social connectedness.

Grandchildren and great grandchildren

Information on the existence of grandchildren and great grandchildren is available for 4137 respondents. 68.8% have at least one grandchild, and 10.4% have at least one great grandchild. Not surprisingly, the likelihood of being a (great) grandparent is strongly linked with age. As *Figure 3.3* shows, the proportions of grandparents increase steadily with each successive age category, but drop among the 80 and over category. That drop is linked with the relatively high rate of childlessness in the particular cohorts. Between 20 and 25% of women born in the period 1905-1915 remained childless (Liefbroer & Gierveld, 1995). *Figure 3.3* also shows a steady increase in the proportions of great grandparents with increasing age. Of course, the older one is, the greater the likelihood of having grandchildren who are in or past their childbearing years.

Table 3.5. Frequency of interaction (1 = never to 8 = daily) with children in association with the generational composition of the family (multiple classification analysis)

	<i>n</i>	deviation ^a	β
parents alive			.01
no	2574	.00	
yes	361	-.04	
# siblings anchor			.03
1-2	1306	.05	
3-4	834	.00	
≥ 5	731	-.06	
# siblings child			.15*
1	1205	.25	
2-3	1041	-.07	
≥ 4	625	-.37	
grandchildren			.03
no	818	-.07	
yes	2035	.03	
partner status anchor			.00
single	971	-.01	
cohabiting	1900	.00	
partner status child			.03
single	419	.12	
cohabiting	2452	-.02	

^a deviation from the grand mean (6.12) adjusted for the covariates and the other independent variables
 $R^2 = 12.1\%$

* $p < .001$.

While information on the frequency of interaction and residential proximity is available for each surviving sibling and child, this is not the case for grandchildren and great grandchildren. Information on interactions with grandchildren was obtained for a subsample of the respondents only ($n = 936$). Detailed descriptions of the importance of grandparenthood will be considered in future publications.

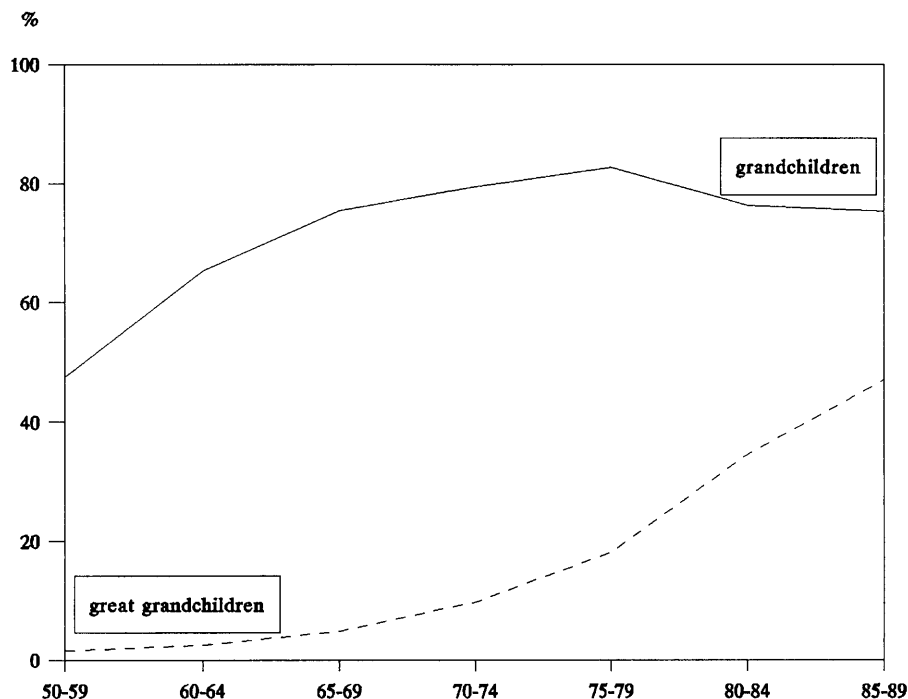


Figure 3.3. Presence of grandchildren and great grandchildren by age ($n = 4137$)

Conclusion

Our data indicate that Dutch older adults are most likely to be members of three-generation families, and more precisely to belong to the oldest generation: that of the grandparents, with each generation represented by at least one surviving member. Almost half of the older adults are in that situation. Five-generation families are relatively rare; our data indicate that less than one per cent of older adults in the 55-89 age category in the Netherlands belong to such a family. It is not unlikely that a higher proportion of five-generation families would have been found if those aged 90 and over had also been members of the NESTOR-LSN sample.

The findings on the geographic dispersion of family members can be said to be typically Dutch. The Netherlands is a small, densely populated country,

and the Dutch are geographically not very mobile. Relatively unique to the Netherlands is therefore that the majority of older adults live near their family members. Close to 40% of those with living siblings have one or two siblings living within a 30-minute travelling distance, while 85% of those with surviving offspring have at least one child living within that distance. One can perhaps characterize the circumstances in the Netherlands as being conducive to high levels of family interaction.

Multigenerational families have become more prevalent in recent decades as the result of increasing longevity. More and more members of the oldest generations are surviving to advanced ages. Fertility patterns also affect family structures: births are the advent of a new generation, and their timing influences the likelihood that members of multiple generations are alive simultaneously. Timing determines how far apart successive generations are in terms of age, and thus the likelihood of co-survival. Recent estimates for the Netherlands indicate that the impact of decreased fertility on the likelihood of becoming a grandparent will be visible only in the extended future (Prins, 1994). Of those born in the 1930's 84% are expected to have at least one grandchild, a figure which is consistent with that for older cohorts. However, 25% of the 1965-birthcohort are estimated to never have any grandchildren if the fertility pattern of their children is similar to their own.

One of the outcomes of the increases in longevity is that family members are spending more and more years *together*. As yet, the implications of co-longevity are unclear. What is the significance for the quality of intergenerational ties? In what ways are intergenerational commitments shaped by sharing a large number of years together? Some (e.g. Arling, 1976) emphasize the intergenerational differences in perspectives and interests which are linked with having grown up in different time periods and occupying different positions in the life course. Others (e.g. Bengtson *et al.*, 1985) emphasize the intrafamilial similarities across generations as regards social values and attitudes. Do these differences and similarities lose significance as the members of successive generations age or do they become more poignant? Knipscheer and Bevers (1985) have drawn attention to the strategies of members of the oldest generation in nurturing reciprocal concerns as long as possible so as to postpone the unavoidable asymmetry in later years.

Our data allow only an indirect assessment of the ways in which intergenerational commitments may have grown, evolved and been confirmed over the years, namely by means of an analysis of current frequency of

interaction. First, our results show that keeping in touch is the norm among parents and their adult children. Only a small number of older adults do not interact with one or more of their children at least monthly. Once again, the results of empirical studies confirm that older adults are not alienated from their families. Secondly, there are clear differences in the frequency of inter- and intragenerational interaction. Older adults have substantially higher levels of interaction with their children than with their siblings. To a certain extent, this finding is attributable to differences in geographic proximity: children are more likely to be household members and to be living nearby than are siblings. Nevertheless, we feel more is involved. In our view the relatively high levels of parent-child interaction say something about the quality of those relationships. They underscore the special nature of the parent-child bond, a shared concern about each other's progress and well-being.

The data on the levels of interaction with siblings support the idea of a preferential hierarchy of relationships. Contacts with siblings are more likely to be activated in the absence of presumably 'more preferred' relationships such as those with a partner and children. The childless and those who are single interact most frequently with siblings. We did not find evidence for the linking pin function of parents. In other words, contrary to expectations, the frequency of contact with siblings did not vary between those with and those without surviving parents. Finally, strong differences according to family size were found: the frequency of contact is inversely related to the number of surviving siblings.

It is often suggested that large and extensive families serve a socially embracing function for their members. Our data, however, highlight the cohesive functions of smaller families. Members of smaller families seem most likely to keep in touch with one another. This is not only evident in interactions among siblings (as described above) but also in interactions with children. In fact, the size of the family of procreation was the only significant determinant of the levels of interaction with children. These findings provide a different perspective on often heard laments about declining family sizes: for example, the notion that aging parents risk having insufficient sources of support. There tends to be a one-sided emphasis on the vulnerability of the situation of children from small families and on the burdens they face. Lacking a wider circle of brothers and sisters, there are few options to share supportive tasks. Elsewhere we have shown that the support children provide to older parents is inversely related to family size (Dykstra & Knipscheer, 1993). Children with few siblings seem particularly committed to remain in

close contact with their parents and to help them when the need arises. One should be careful to base predictions about the future situation of older adults on demographic data alone.

References

- Arling, G. (1976). The elderly widow and her family, neighbors and friends. *Journal of Marriage and the Family*, 38, 757-768.
- Beer, J. de, de Jong, A., & Visser, H. (1993). Nationale Huishoudensprognose 1993 [National household forecasts 1993]. *Maandstatistiek van de Bevolking*, 93/8, 13-23.
- Bengtson, V.L., Cutler N.L., Mangen, D.J., & Marshall V.W. (1985). Generations, cohort and relations between age groups. In R.H. Binstock & E. Shanas (Eds), *Handbook of aging and the social sciences* (2nd ed., pp. 304-339). New York: Van Nostrand Reinhold.
- Bengtson, V.L. & Treas, J. (1980). The changing family context of mental health and aging. In J.E. Birren & R.B. Sloane (Eds.), *Handbook of mental health and aging* (pp. 400-428). Englewood Cliffs, NJ: Prentice Hall.
- Bumpass, L.L. (1990). What's happening to the family? Interactions between demographic and institutional change. *Demography*, 27, 483-498.
- Burch, T.K. & Matthews, B.J. (1987). Household formation in developed societies. *Population and Development Review*, 13, 495-511.
- Callahan, J. (1985). What do children owe elderly parents? *The Hasting Center Report*, 15, 32-37.
- Cantor, M.H. (1979). Neighbors and friends: An overlooked resource in the informal support system. *Research on Aging*, 1, 434-463.
- Cherlin, A., Furstenberg, F.F. (1985). Styles and strategies of grandparenting. In V.L. Bengtson & J.F. Robertson (Eds.), *Grandparenthood* (pp. 97-116). Beverly Hills, CA: Sage.
- Cicirelli, V.G. (1982). Sibling influence throughout the lifespan. In M.E. Lamb & B. Sutton-Smith (Eds.), *Sibling relationships: Their nature and significance across the lifespan* (pp 267-284). Hillsdale N.J: Lawrence Erlbaum.
- Council of Europe (1984). *The social protection of the very old*. Strassbourg.
- Dooghe, G. (1970). *De structuur van het gezin en de sociale relaties van bejaarden* [Family structure and the social relationships of older adults]. Antwerpen: Nederlandse Boekhandel.

- Dykstra, P.A. & Knipscheer, C.P.M. (1993). Kindertal en door ouderen verkregen steun [Family size and support received by adult children]. In M.M. Blom, Y. Kuin & H.J.F. Hendriks (Eds.), *Ouder worden '93* (pp. 141-147). Utrecht: NIZW.
- Hagestad, G.O. (1984). Multi-generational families: Socialization, support and strain. In V. Garms-Homolová, E. Hoerning & D. Schaeffer (Eds.), *Intergenerational relationships* (pp. 105-114). Lewiston, NY: Hogrefe.
- Hagestad, G.O. (1992). Family networks in an ageing society: Some reflections and explorations. In W. van den Heuvel, R. Illsley, A. Jamieson & C.P.M. Knipscheer (Eds.), *Opportunities and challenges in an ageing society*. Amsterdam: Royal Academy of Arts and Sciences.
- Knipscheer, C.P.M. (1980). *Oude mensen en hun sociale omgeving. Een studie van het primair sociaal netwerk* [Older adults and their social surroundings: A study of the primary social network]. Den Haag: VUGA.
- Knipscheer, C.P.M. (1986). Family care of impaired elderly, possibilities for innovations. In W. van den Heuvel & G. Schrijvers (Eds.), *Innovations in care for the elderly: European experiences* (pp. 137-165). Lochem: De Tijdstroom.
- Knipscheer, C.P.M. (1990). *Ouder worden, familie en intergenerationele betrokkenheid* [Aging, family and intergenerational commitment]. Assen: Van Gorcum.
- Knipscheer, C.P.M. & Bevers, A. (1985). Older parents and their middle-aged children: Symmetry or asymmetry in their relationships. *Canadian Journal on Aging*, 4, 145-159.
- Kobrin, F.E. (1976). The fall in household size and the rise of the primary individual in the United States. *Demography*, 13, 127-138.
- Langeveld, H.M. (1985). *Binding in vrijheid: Een studie naar toekomstige gezinnen, relaties en hulpverlening*. Den Haag: Sociaal Culturele Studies 6.
- Laslett, P. (1965). *The world we have lost*. London: Methuen.
- Liefbroer, A.C. & Jong Gierveld, J. de (1995). Standardization and individualization: The transition from youth to adulthood among cohorts born between 1903 and 1965. In H. van den Brekel & F. Deven (Eds.), *Population and family in the low countries 1994* (pp. 57-79). Dordrecht: Kluwer.
- Mancini, J.A. & Blieszner, R. (1989). Aging parents and adult children: Research themes in intergenerational relations. *Journal of Marriage and the Family*, 51, 275-290.

- Moors, H., Beets, G., & Brekel, H. van den (1995). *Opvattingen over en acceptatie van bevolkingsbeleid, 1983-1990* [Opinions about and acceptance of population policies, 1983-1990]. NIDI-report 41. Den Haag: Nederlands Interdisciplinair Demografisch Instituut.
- Paillat, P., Attias-Donfut, C., Clement, F., & Delbes, C. (1989). *Passages de la vie active a la retraite*. Paris: PUF Collection Politique d'Aujourd'hui.
- Pampel, F.C. (1983). Changes in the propensity to live alone: Evidence from consecutive cross-sectional surveys, 1960-1976. *Demography*, 20, 433-447.
- Parsons, T. (1943). The kinship system of contemporary United States. In T. Parsons (Ed.), *Essays in sociological theory* (pp. 177-196). New York.
- Prins, C.J.M. (1990). Sterke groei éénpersoonshuishoudens onder bejaarden [Rapid growth one-person households among the elderly]. *Maandstatistiek van de Bevolking*, 90/2, 10-11.
- Prins, C.J.M. (1994). Kans op grootouderschap neemt pas op termijn af [Probability of great-parenthood not down yet]. *Maandstatistiek van de Bevolking*, 94/1, 6-8.
- Regt, A. de (1993). *Geld en gezin: Financiële en emotionele relaties tussen gezinsleden* [Money and family: Financial and emotional relationships among family members]. Meppel: Boom.
- Riley, M.W. (1983). The family in an aging society: A matrix of latent relationships. *Journal of Family Issues*, 4, 439-454.
- Ruffin, M.D. (1984). Contribution of the family to the economic support of the elderly. *Family Economic Review*, 4, 1-11.
- Troll, L.E., Miller, S.J., & Atchley R. C. (1979). *Families in later life*. Belmont, CA: Wadsworth.
- Uhlenberg, P. (1980). Death and the family. *Journal of family history*, 5, 313-320.
- Verhoef, R. (1989). Geboorte [fertility]. *Maandstatistiek van de Bevolking*, 89/10, 14-15.
- Watkins, S.C., Menken, J.A., & Bongaarts, J. (1987). Demographic foundations of family change. *American Sociological Review*, 52, 346-358.
- White, L.K. & Riedmann (1992). Ties among adult siblings. *Social Forces*, 71, 85-102.
- Wolf, D.A. (1990). Household patterns of older women: Some international comparisons. *Research on Aging*, 12, 463-486.

AGE DIFFERENCES IN SOCIAL PARTICIPATION: The importance of restrictions

Pearl Dykstra

The topic of social participation has traditionally received much attention in gerontology. Social participation refers to activities other than paid employment and tasks related to household maintenance and family care. Examples are: participation in voluntary associations and volunteer work. The defining feature is their embedment in the social circles offered by religious, cultural, political, social welfare and recreational organizations. The organizations in and through which social participation takes place, constitute what is commonly called the 'civil society' (Koopmans, 1994). A second crucial feature of social participation involvements is that their fulfilment depends upon personal initiative. People must make an effort to engage in them.

Social participation is considered to be a key to older adults' integration in society, a means to ward off social isolation (Lameiro García & Van Rijsselt, 1992). As people age, earlier avenues of social integration may be left behind. Older adults are less likely to be participating in the labour force, to have children at home or to be a member of a married couple. An often expressed concern is that if older adults do not find alternative meaningful activities, after a transition such as retirement or widowhood, they risk social isolation. This concern is of course typical of the approaches in which older adults are primarily constituted as a 'problem group'. Thus the study of social participation has traditionally reflected a concern with the extent to which older adults have access to and form part of the mediating structures which provide linkages between individuals and groups of individuals within the society. Less attention has been paid to the ways in which older adults,

through their daily activities, continue to contribute to society (Herzog, Kahn, Morgan, Jackson & Antonucci, 1989).

This brings me to the first objective of this chapter: to provide *basic descriptive information* on older adults' social participation. Three kinds of social participation will be considered: religious involvement, membership of voluntary associations, and volunteer work. Differences in social participation according to gender, age, and living arrangement will be examined.

There is general consensus that with advancing years, older adults' social participation declines. However, there are different viewpoints regarding the reason why this may be the case. Disengagement theorists (Cumming & Henry, 1961) view withdrawal from social involvements as an integral part of aging. To become old is to become removed from social commitments and to become increasingly self-focused. Viewed from this perspective, the major tasks facing older adults at advanced ages are evaluation of the life one has led and preparation for death. Activity theorists (Havighurst & Albrecht, 1953; Maddox, 1965, 1970) put forward that as people age, they continue to follow, in so far as possible, the pattern of activities of earlier years. A decline in older adults' activity level is viewed as resulting from increasing restrictions (e.g. physical impairments, and lower income). In other words, disengagement theorists emphasize psychological factors (dispositions), while activity theorists emphasize structural and health factors (restrictions) to explain the decline in social participation.

This brings me to the second objective of this chapter: to provide insight into changes in social participation that are linked with age. Ideally, one would use longitudinal data to examine a possible decline in social participation with advancing age. Unfortunately, only cross-sectional data are available in the NESTOR-LSN survey. For that reason, the social participation of different age categories will be compared and contrasted, as an approximation of changes over time. The question to be addressed is: if it is indeed the case that levels of social participation are inversely associated with age, what accounts for the *decline with age*? Restrictive circumstances known to be associated with age will be examined to find out whether they provide an explanation of observed differences. More specifically, the analyses will focus on the importance of health, income, educational attainment, institutionalization and access to transportation.

Distinguished forms of social participation

As mentioned earlier, three kinds of social participation were distinguished in the NESTOR-LSN survey: religious involvement, membership of voluntary associations, and volunteer work. These three were selected because of the different ways in which they can contribute to older adults' well-being.

In our view, the beneficial effects of *religious involvement* stem from several sources. Firstly, the church provides a pool of social contacts with similar backgrounds, views on life and values, many of which emphasize the virtue of helping others. One has the opportunity to meet and interact with fellow congregants not only by going to religious services, but also through participating in other activities such as the choir, bible study, house visits, missionary work, and so forth. Secondly, one can point to the supportive function that the head of the congregation (minister, rabbi, priest, imam) may have as a confidant, advisor or teacher. Thirdly, the personal relationship with God may be a source of solace and internal peace. In the survey, the degree of religious involvement was determined by church membership ('Are you a member of a church or of a particular religious group?'), and by enquiring into the frequency of church attendance ('Do you attend church services or meetings of your religious group, and if so, how often?', with five answer categories ranging from 'yearly or less often' to 'at least weekly'). The attendance of church services was not restricted to occasions where people actually go to church. It could also include services organized especially for residents of nursing homes, or services witnessed at home via television, radio or the so-called 'church telephone' (radio line with the neighbourhood church).

Participation in *voluntary associations* can contribute to well-being in the sense that there is an opportunity to practice and improve one's social skills and to receive feedback from others about one's performance and personal opinions (Evans & Boyte, 1992). Acquired skills and obtained information can be useful in other life areas. Participation in groups and organizations can also promote self-esteem (Simons, 1983-84). A feeling of worth accrues when people engage in activities which they and significant others view as valuable or important. Finally, voluntary associations provide contexts for socializing and enjoying the company of others. To measure membership of voluntary associations, the respondents were presented with a list of eight types of associations (see *Table 4.1*). With respect to each, they were asked whether or not they were a member, and where relevant, they were also asked

whether they were 'active members', that is, whether or not they attended meetings of the organization (e.g. seniors' advocacy association). The present study considers *active* membership only. In my view it is a better indicator of social participation than membership *per se*.

Volunteer work not only has benefits for society at large, but also for volunteers themselves (Van den Berg, 1988). Through volunteer work, one generally contributes to the well-being of others. The experience of being useful to others tends to make people feel good. In other words, through engaging in volunteer work, older adults can gain social approval. Moreover, as is the case with the participation in voluntary associations, volunteer work provides a context for elaborating and exercising one's repertory of social skills. Examples of volunteer work are: helping out in the bar of a sports club, bookkeeping for a hobby association, and going for a walk with a handicapped individual confined to a wheelchair. During the interview, the respondents were asked with regard to 14 different areas (e.g. care in the community, care for handicapped and elderly) whether they performed volunteer work. The fourteen types of volunteer work are specified in *Table 4.2*. Our study uses a rather broad definition of volunteer work (*cf.* Van Daal, 1990). Our definition also included helping activities which are performed outside formal organizations (e.g. in the neighbourhood).

In selecting the types of voluntary associations and volunteer work for our study, care was taken to avoid gender biases. Both typically male (e.g. politics) and typically female (e.g. care) domains were included in our social participation inventory. The concern was to avoid 'creating' gender differences, for example by inquiring into predominantly male activities.

Design of the Study

Respondents

In 1992, face-to-face interviews were conducted with 4494 respondents. They constituted a stratified random sample of men and women born in the years 1903 to 1937. The random sample was taken from the registers of 11 municipalities: the city of Amsterdam and two rural communities in the west, one city and two rural communities in the south, and one city and four rural communities in the east of the Netherlands. The response was 61.7 per cent. The data were collected by 88 interviewers.

The average age of the respondents was 72.8. Most were living in their own homes: 1298 (28.9%) were not married and lived alone, 2582 (57.5%) lived with a partner, and 206 (4.6%) lived in another kind of multi-person household. Finally, 351 (7.8%) lived in an institution of some sort, such as a nursing home, a home for the aged, psychiatric hospital, or shelter for the homeless.

Basic description

The chapter is organized as follows. First, basic descriptive data on social participation will be presented, for the entire group, and for males and females separately. Where possible, the NESTOR-LSN findings will be compared with those from other Dutch large scale surveys. The data concern participation levels for individual items (i.e. eight types of voluntary associations, and 14 types of volunteer work). Next, differences in social participation according to age and living arrangement will be presented. These and subsequent analyses are based on *summary measures*. The analyses of religious involvement contrast those who do with those who do not attend religious services on at least a weekly basis, regardless of whether or not they are actually members of a church or of a particular religious group. Dichotomous measures are also used for membership of voluntary associations and volunteer work. Thus, the focus is on differences between those who are active members of at least one voluntary association versus those who are not, and on differences between those who perform at least one type of volunteer work versus those who do not. The reason for using dichotomous measures is that the responses to the individual items were virtually independent of one another. They did not meet minimally acceptable scaling criteria, a finding that is not uncommon to research on social participation (Van Deth & Leijenaar, 1994).

Seven *age* categories are distinguished: ages 55 to 59, 60 to 64, 65 to 69, 70 to 74, 75 to 79, 80 to 84, and 85 to 89. *Living arrangement* is a composite variable based on partner status, household composition and residential type. Six categories are distinguished: never-married respondents living alone, divorcees living alone, widows and widowers living alone, respondents living with a partner whether married or not (this group will subsequently be referred to as the 'cohabiting', though almost 95% are officially married), other private households (e.g. siblings living together, single-parent families, and so forth), and institutionalized respondents. The households of the

cohabiting do not necessarily consist of only two persons; there may be co-resident children, parents, and so forth.

Age differences and restrictive circumstances

In the final section, age differences in social participation will be subjected to closer scrutiny. In a series of logistic regression analyses, the importance of age relative to that of structural and health restrictions will be examined. The aim of these analyses is to find out to what extent age differences are attributable to restrictive circumstances known to be associated with age. The following indicators of restrictive circumstances were used. The level of *educational attainment* was included because it generally suggests the availability of the social skills that facilitate engagement in activities that depend on personal initiative and planned behaviour (Lopata, 1973). Moreover, educational attainment generally indicates the availability of other resources (e.g. finances) that create opportunities for social participation. The level of educational attainment was measured in terms of the number of years of schooling. The range was from five years for those who had less than elementary education to 18 for those who had completed university education.

To a certain extent, social participation is also facilitated by the availability of financial resources: memberships must be paid for, many associational activities require the purchase of certain goods and materials, and the costs involved in volunteer work are often only partially remunerated. For that reason, a measure of *net monthly income* was included. Information about household income class was used to construct a quasi-interval scale for personal income. This was done in two steps. First, respondents were assigned the median value of the household income class to which they belonged. Next, to make the incomes of residents of one-person households comparable to those of households including a partner, the household income of the latter was multiplied by a factor of 0.7.

It is well known that at advanced ages physical impairments reduce the opportunities for social participation: the range of feasible activities becomes more restricted. Those requiring physical endurance, good eyesight and minimum speed become increasingly difficult to perform. Two measures of health status were used. The first is an assessment of physical functioning (*ADL-capacity*), and consists of the sumscore of the responses to four items enquiring into difficulties in performing personal activities of daily living

(walking up and down stairs, walking for five minutes without resting, getting up from and sitting down in a chair, dressing and undressing). The scale is sufficiently hierarchically homogeneous ($H = .68$) and reliable ($\rho = .87$). Scale scores range from four (no ADL-capacity) to 16 (full ADL-capacity). The second is a *subjective health* rating, namely the answer to the question: 'How is your health in general?'. The subjective health score ranges from one, poor health, to five, excellent health. Subjective health correlates .43 with ADL.

The last measure included in the analyses was whether or not the respondents were in the possession of a *driver's license*. This measure was used because it provides an indication of the extent to which the respondents are dependent upon others to go about as they wish. Those without such a permit have no option but to rely on public facilities or private drivers for motorized transportation. Of course a driver's license is only useful as long as one has the capacity to drive an automobile. This capacity diminishes with age (e.g. night vision).

Weights

The data are from the 4125 respondents who answered the questions on social participation. Descriptive data are corrected for selective non-response, and where appropriate, for the stratification criteria. Descriptive data pertaining to the *entire sample* have been weighted in such a way that they are representative of the Dutch population of older adults of 55 years of age and over. These data are controlled for the over-representation of the oldest respondents and the over-representation of males. Descriptive data pertaining to different *age groups* have been controlled for the over-representation of males in the oldest age groups. Within each age category, the proportions of males and females have been made consistent with those at the national level. No weights are used in the multivariate analyses. Note that when weighted data are used, the sample size deviates from 4125.

Results

Levels of social participation

Church membership. Results indicate that 61.1% of the older adults are a member of a church or of a particular religious group. Women are more likely to be members than are men. The figures are 63.7% and 55.6%, respectively, $t_{(4133)} = 5.3$, $p < .001$. The Roman Catholic Church has the highest number of members (28.2%), followed by the Dutch Reformed Church (18.3%) and the Re-Reformed Church (7.6%). Relatively small numbers of respondents belong to the orthodox protestant denominations (2.3%) and the remaining christian denominations (2.2%). Finally, 1.7% report they are Jewish, Humanist, Muslim or 'other'. (Dutch Reformed is 'Nederlands Hervormd'. Re-Reformed is 'Gereformeerde Kerken in Nederland'. Examples of orthodox protestant denominations are 'Nederlands Gereformeerde Kerken', 'Oud-Gereformeerde Gemeente', 'Christelijk Gereformeerde Kerken' and 'Gereformeerde Kerken (vrijgemaakt)'. Examples of other christian denominations are baptists and pentecostals.)

Of all the older adults, 30.0% report they attend church services or meetings of a religious group at least once a week. Here again one finds higher levels of involvement among women (32.0%) than men (27.6%). The difference is significant, $t_{(4133)} = 3.1$, $p < .01$. Not surprisingly, the frequency of church attendance is strongly associated with membership. Of those who are members, 48.7% attend services weekly or more often. This figure is 1.9% for non-church members. Likewise, a higher proportion of non-church members (namely 89.5%) than of church members (namely 21.4%) report never attending services or doing so less frequently than once a year.

The 1991 Cultural Changes in the Netherlands Study ('Culturele Veranderingen in Nederland'), carried out by the Social and Cultural Planning bureau (SCP) among 1607 adults ranging in age from 21 to 70 (Becker & Vink, 1994), provides baseline data for assessing the representativeness of the NESTOR-LSN results on church membership and church attendance. Note that the Cultural Changes Study has a considerably smaller sample of older adults. According to that study, 59% of adults in the 51-70 year age category were church members, as indicated by a positive response to the question 'Do you consider yourself as belonging to a religious denomination?'. An exact match with the SCP-data in terms of age cannot be made: the youngest NESTOR-LSN respondents were 55 years of age at the time of the interview.

For that reason we focused on the 55-69 year olds. Church membership in that category is 58.0%, which is very close to the SCP figure.

In the SCP-project the frequency of church attendance was measured by means of the question 'Recently (e.g. during the last six months), how often have you gone to church?' 51% of church members in the 51-70 year age category went to church at least every two weeks. The relevant response category in the NESTOR-LSN survey was: at least two or three times a month. 57.9% of the church members in the 55-69 year age category attended church services that often. Thus, NESTOR-LSN reports a higher proportion of older adults attending church bi-monthly or more often. Differences in the definition of 'church attendance' are possibly responsible for the discrepancy. As described earlier, NESTOR-LSN used a broad definition, one including services witnessed at home via television, radio or 'church telephone'.

Membership of voluntary associations. Almost 55% of the older adults are active members of at least one voluntary association (see *Figure 4.1* for details). Men are more often actively involved in at least one voluntary association than are women. The figures are 58.4% and 51.9%, respectively, $t_{(4133)} = 4.2$, $p < .001$. Information on the types of associations in which they are involved, is provided in *Table 4.1*. Older adults are most likely to be active in voluntary associations related to recreational pastimes, such as hobby associations or sports clubs. However, their memberships also indicate strong commitments to social issues: as *Table 4.1* shows, a relatively high proportion of older adults is active in associations devoted to political causes, such as Amnesty International or Widowers' Advocacy Groups. As *Table 4.1* shows, the preponderance of men in voluntary associations is not observed for all types: women are more often actively involved in same-sex associations, and seniors' advocacy associations. Characteristic of these types is an emphasis on leisure time activities. The social programs offered by seniors' advocacy associations, for example, are tailored to the membership, which has an over-representation of low-educated women (De Kort, 1995). Thus meetings tend to be structured around bingo, board games and card playing.

Comparisons with other Dutch survey data are possible if one looks at membership *per se*, rather than active membership. In the NESTOR-LSN survey, 65.8% are members of one or more voluntary associations. This proportion is higher than the figure of 51% provided by the SCP (Timmermans, 1993) on the basis of the 1991 Complementary Public Services

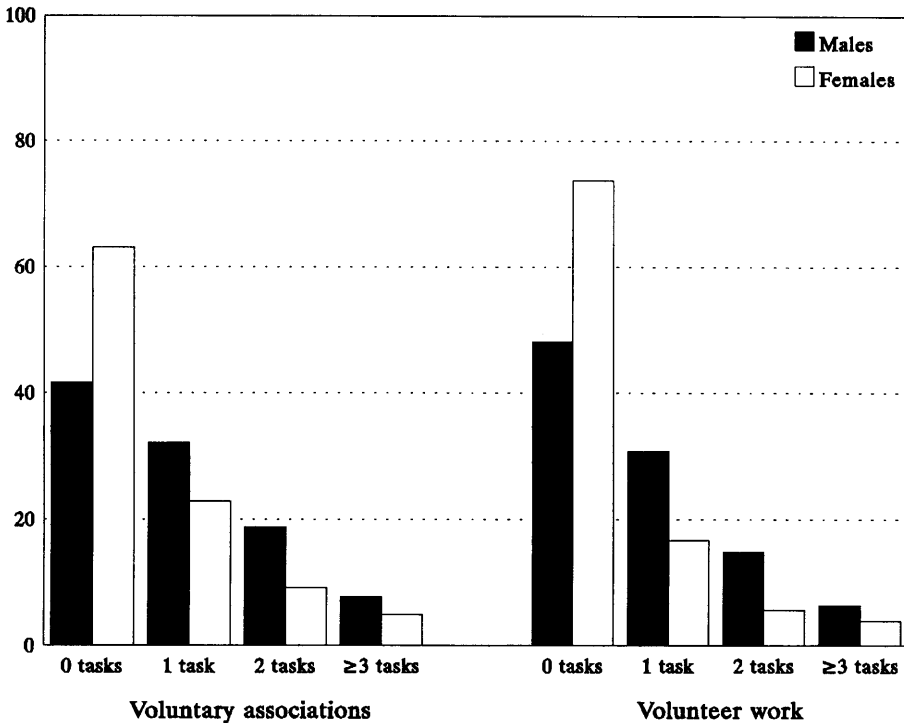


Figure 4.1. Rates of social participation for males ($n = 1823$) and females ($n = 2312$) separately (data corrected for over-representation of older males)

Table 4.1. Active membership of different types of voluntary associations (in %)

	Males ($n = 1823$)	Females ($n = 2312$)	t
Choir, music or drama association	8.1	10.2	-2.3
Same-sex club, union or association ^a	4.4	16.8	-12.8**
Sports club	17.6	12.1	5.0**
Hobby association	20.0	14.7	4.5**
Association with societal objective	16.3	13.8	2.1
Political party	6.0	2.1	6.6**
Union/employer association	14.3	1.6	16.2**
Seniors' advocacy association	7.6	10.3	-3.1*

^a These are associations such as 'vrouwenbond' or 'mannenbond', and 'vrouwenverenigingen' or 'mannenverenigingen'.

* $p < .01$, ** $p < .001$.

Survey ('Aanvullend Voorzieningen Onderzoek') which involved, among others, 2437 adults aged 55 years and over. Both studies inquired into memberships of choir, music or drama associations, sports clubs, hobby associations, organizations with a societal objective, political parties, and union and employer associations. However, NESTOR-LSN also assessed the membership of associations which are largely specific to older adults, namely same-sex unions and seniors' advocacy associations, and this is possibly why it reports a higher membership rate.

Volunteer work. Approximately 30% of the older adults are active in one or more of the specified areas of volunteer work (see Figure 4.1 for details). Men are more likely to perform volunteer work than are women, 36.9% versus 26.2%, $t_{(4133)} = 7.4$, $p < .001$. However, as Table 4.2 shows, the preponderance of men is not observed across all types. Women are more likely to perform volunteer work in the context of same-sex associations, and there are no gender differences as regards volunteer work in the church, schools, or the areas of care. Table 4.2 shows furthermore that older adults are most likely to be involved in the care of the disabled. Here we have evidence that older adults are not only recipients of care (which is usually emphasized) but also providers of care (Arber & Ginn, 1990). Furthermore, a relatively high proportion of respondents is involved in volunteer work associated with the church (e.g. conducting bible study groups, organizing bazaars, serving refreshments after services). The importance of the church as a context for volunteer work has also been noted by Van Deth and Leijenaar (1994). They describe volunteer work 'careers' in church organizations.

The NESTOR-LSN results are consistent with those from the 1990 SCP Time Budget Survey ('Tijdsbestedingsonderzoek') which shows that 31% of those over the age of 55 ($n = 773$) are involved in one or more of the following forms of volunteer work: work in a youth or community centre, care for the handicapped or elderly, church work, involvement in (local) politics, and work for sports clubs (Timmermans, 1993).

Differences in social participation with age

Age differences in social participation rates are presented in Figure 4.2. Interestingly, no decline with age is found for religious involvement (as indicated by church attendance). On the contrary, the lowest participation rates

Table 4.2. *Participation in different types of volunteer work (in %)*

	Males (<i>n</i> = 1823)	Females (<i>n</i> = 2312)	<i>t</i>
Choir, music or drama association	3.2	1.6	3.5*
Same-sex club, union or association	0.0	3.5	-7.9**
Sports club	7.2	1.2	10.0**
Hobby association	6.1	2.7	5.5**
Association with societal objective	7.6	4.6	4.2**
Political party	1.4	0.4	3.7*
Professional or employee association	3.0	0.2	7.4**
Church or other religious group	10.9	9.0	2.0
Parent-teacher association or schoolboard	0.9	0.5	1.6
Daycare, school	0.5	1.0	-1.6
Youth centre or community centre	1.7	0.3	4.6**
Association of women volunteers	0.9	0.8	0.2
Care for handicapped, elderly	11.6	11.9	-.3
Other forms of care	3.4	3.5	-.1

* $p < .01$, ** $p < .001$.

are observed in the youngest age groups. Though the age differences in religious involvement are significant, $F_{(4118,6)} = 7.7$, $p < .01$, they account for only a small proportion of the variance ($R^2 = 0.7\%$). As described earlier, church attendance is highly dependent on membership. The data on church membership reflect the increasing secularization in the Netherlands during the past decades (Becker & Vink, 1994). The youngest respondents are least likely to belong to a religious denomination, and for that reason, presumably are least likely to attend services. In other words, cohort differences rather than age differences appear to account for the decline in religious involvement.

As Figure 4.2 shows, the active membership of voluntary associations is relatively stable up to the age of 70 or 75. Beyond that, participation rates decrease sharply. The age differences, which account for 2.3% of the variance, show significant deviations from linearity. A different pattern is observed for the participation in volunteer work. The data show a linear decline with age, with age differences accounting for 7.3% of the variance.

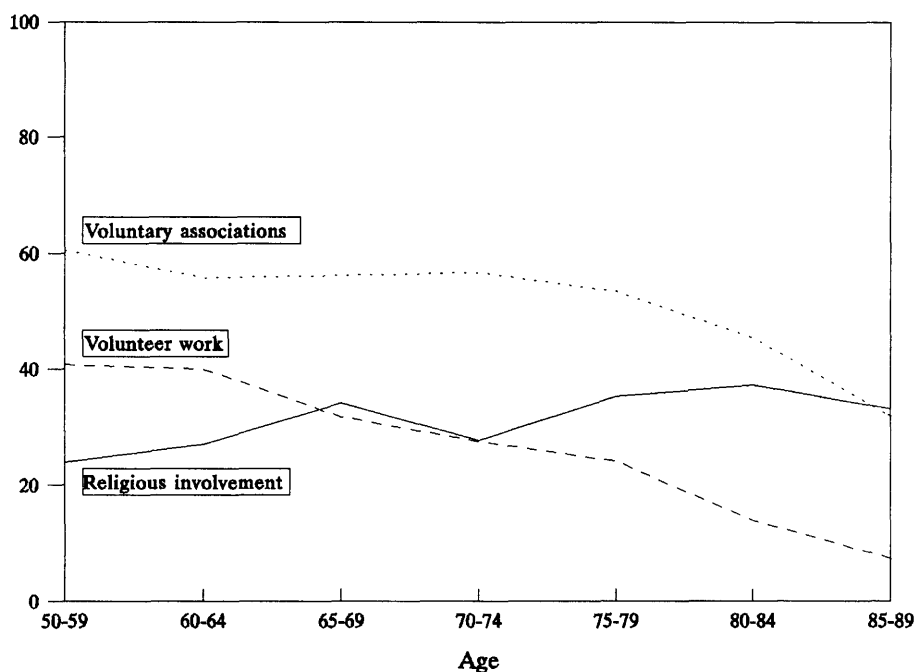


Figure 4.2. Age differences in social participation (data corrected for over-representation of older males)

Differences in social participation according to living arrangement

To examine living arrangement differences, analyses of variance were performed with age as the covariate. *General* living arrangement differences will be described first. This will be followed by a description of gender differences that emerge for particular living arrangement categories only (see Figure 4.3).

Consistent differences according to living arrangement are found for the membership of voluntary associations and the involvement in volunteer work. Cohabiting respondents have the highest participation rates of all groups. It is not entirely clear how to account for this finding. The nature of the activities is possibly relevant. Leisure-time activities such as bridge, dancing or tennis often take place on a couple-companionate basis. Financial resources may also be relevant. The cohabiting tend to have the highest incomes (see Chapter 2).

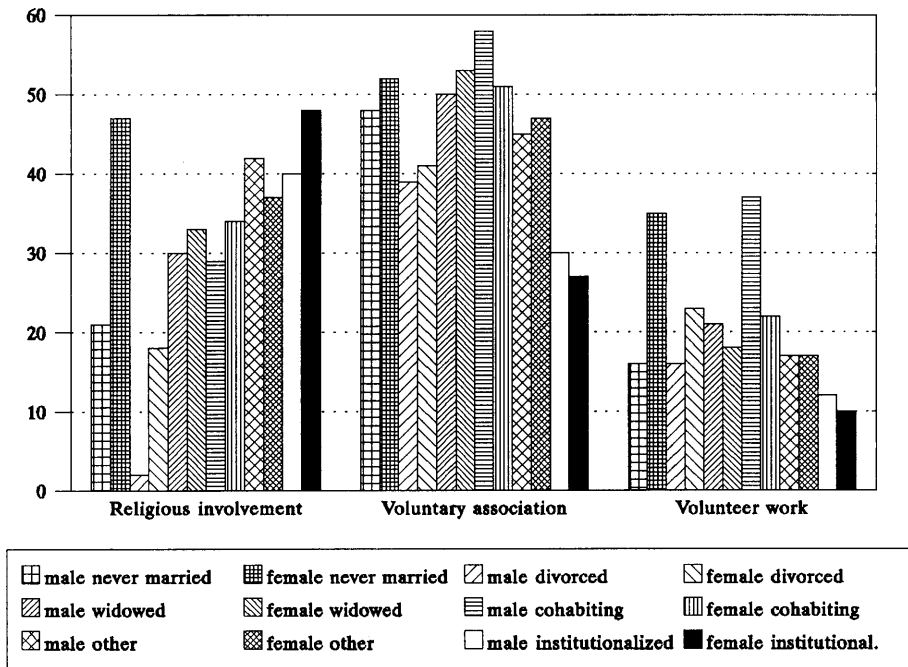


Figure 4.3. Gender and living arrangement differences in social participation (data controlled for age differences)

The institutionalized respondents consistently have the lowest social participation rates. This finding is probably attributable to their poor physical mobility and limited transportation facilities.

The data for religious involvement show a different pattern. Rates of church attendance are highest for institutionalized respondents. It is possible that because residents of homes for the elderly and nursing homes have limited access to many avenues for social participation, opportunities for religious involvement become increasingly important. Note also the conditions facilitating the participation in religious services by the institutionalized. Many homes for the elderly and nursing homes have services on site. Residents can also listen to the 'church telephone' in their own living quarters.

The divorcees are least likely to attend church services on a weekly basis. A possible explanation is that the event of divorce itself is influenced by church membership. Some religious doctrines oppose divorce. Furthermore,

ad hoc analyses revealed that divorcees are least likely to belong to a religious denomination, $\chi^2_{(10)} = 61.9$, $p < .001$. The rate of church membership is 35.2% for divorcees, 62.3% for the never-married, 64.7% for the widowed, 61.0% for the cohabiting, 70.1% for the category 'other', and 72.9% for the institutionalized. As shown earlier, the attendance of religious services is highly dependent on church membership. Of course both phenomena of divorce and church membership may be linked to a common background factor, namely the adherence to modern values and norms rather than the more traditional.

So far, general living arrangement differences have been reported. Now, differences between males and females that are specific to the never-married and to the cohabiting, respectively, will be discussed. The data show that never-married women are more socially active than their male counterparts: they are more likely to attend church at least weekly and more likely to be involved in volunteer work. Gender differences among the never-married are often reported in the literature. They are generally attributed to differential selection into marriage. Women tend to marry 'upward', that is, find marriage partners with a social status greater than their own, while men tend to marry 'downward' (Bernard, 1973). Those who remain unmarried tend to be high-resource females and low-resource males. Presumably then, one can explain the high rates of social participation among never-married women, in comparison to never-married men, in terms of their access to more and better resources: educational attainment, income and social skills (see Chapter 2 for supportive evidence).

Earlier, the finding was reported that the cohabiting tend to have the highest social participation rates (with the exception of religious involvement). Closer inspection of the data reveals that this is particularly the case for males. Of all the respondent groups, cohabiting men are most likely to be active members of voluntary associations and to perform volunteer work. In comparison with their female partners, the males probably have more free-available time. Most are no longer in the labour force, and they generally have few homemaking responsibilities. Another possible explanation is that women, in an effort to have time and space for themselves encourage their partners' activities outside the home. Deem (1982) argues that the ways in which women's time is organized, particularly if they are living with a partner, constrains their leisure activities. Free available time is not always predictable in advance, nor is it always of a long duration. Furthermore,

women's leisure activities may have to be put aside in order to make men's leisure possible or they need to be tailored to fit in with his movements.

That the presence of a partner serves as a greater resource for men than for women is further corroborated by the finding that, among men, the social participation rates of the widowed are significantly lower than they are for the cohabiting. Among women, such strong differences between the cohabiting and the widowed are not observed. With the loss of the partner, men's social engagements appear to drop dramatically. In fact, with regard to the membership in voluntary associations and the mean number of leisure-time pursuits, the participation rates of widowed men are below those of their female counterparts. These results provide further evidence for widowers doing less well than widows (Stroebe & Stroebe, 1983).

Age differences and restrictive circumstances

As described earlier, a decline with age was found for the active membership of voluntary associations and volunteer work. To find out what accounts for the decline, stepwise logistic regression procedures were followed. At step one, age was entered into the analysis. Living arrangement was introduced at step two, using a set of dummy variables with the cohabiting respondents serving as the reference category. The measures of restrictive circumstances were incorporated at step three: educational attainment, income, health status, and the possession of a driver's license. Bivariate analyses showed that each selected determinant was significantly associated with the two forms of social participation at the .01 level. Considering the previously described differential effects of having a partner, the analyses were performed separately for males and females. No further analyses of religious involvement were conducted, given the absence of a decline with age.

As *Table 4.3* shows, age differences in social participation rates were reduced (that is, the value of $\text{Exp}(B)$ charged in the direction of 1.00, in which case there are no differences between distinguished categories) after taking into account differences according to living arrangement, educational attainment, income, health status, and the possession of a driver's license. However, they remained significant except in the analysis of women's membership of voluntary associations. In other words, age has an impact on men's membership of voluntary associations and the involvement of both men and women in volunteer work *independent* of differences in living arrangement, educational

attainment, income, health status, and access to transportation. The restrictions to which older adults are subject, provide only a partial explanation of age differences in social participation.

Step two of the analysis shows the differential effects for men and women of involvement in a partner relationship. Among males, the social participation rates of those without a partner are lower than for the cohabiting. It should be noted, however, that in the analysis of the membership of voluntary associations, the difference with the cohabiting is significant only for the divorced, while in the analysis of volunteer work the difference with the cohabiting is significant for all the living arrangement categories except for the institutionalized. Repeating a point made earlier: cohabiting males have the highest participation rates. The results for women are quite different: the never-married and the widowed are the most socially active. Again, it should be noted, however, that in the data on women's membership of voluntary associations, the difference between the never-married and the cohabiting is not significant. Clearly, one should not consider living arrangement differences in social participation without also paying attention to gender differences.

Step three of the analyses shows that though restrictive circumstances do not fully account for the age decline in social participation, they are nevertheless important. Considered singly, each has a significant impact upon social participation. Considered together, they are not all significantly associated with social participation. Among both men and women, the level of educational attainment is significantly, and positively, associated with the two forms of social participation, independent of the other factors. Interestingly, when the other restrictive circumstances are taken into account, the level of income does not account for any differences in social participation.

Health is relevant to both forms of social participation independent of the other restrictive circumstances: the better the health condition, the more likely the older adult is to be socially active. Differences in ADL-capacity account for differences in the membership of voluntary associations and volunteer work among both men and women. However, differences in subjective health ratings account for differences in the engagement in volunteer work among women only, and they are not relevant to the membership of voluntary associations. The possession of a driver's license also accounts for differences in social participation. Men and women with a driver's license are more likely to be active members of voluntary associations and to be involved in volunteer work.

Table 4.3. Hierarchical regressions on social participation of age, living arrangement and restrictive circumstances

Males (<i>n</i> = 1870)			
<i>Voluntary associations</i>	Step 1 Exp(B)	Step 2 Exp(B)	Step 3 Exp(B)
Age	.83***	.84***	.91**
Living arrangement ^a			
Never-married		.75	.96
Divorced		.46*	.54*
Widowed		.98	1.01
Other		.72	.87
Institutionalized		.58*	.90
Educational attainment			1.07***
Income			1.00
ADL-capacity			1.08***
Subjective health			1.07
Driver's license			1.40**
Females (<i>n</i> = 1903)			
<i>Voluntary associations</i>	Step 1 Exp(B)	Step 2 Exp(B)	Step 3 Exp(B)
Age	.90***	.89***	.96
Living arrangement ^a			
Never-married		1.14	1.00
Divorced		.65	.61
Widowed		1.30*	1.34*
Other		.90	.97
Institutionalized		.51**	.66
Educational attainment			1.05**
Income			1.00
ADL-capacity			1.08***
Subjective health			.98
Driver's license			1.30*

Table 4.3. (Cont.d)

Males (<i>n</i> = 1870)			
<i>Volunteer work</i>	Step 1 Exp(B)	Step 2 Exp(B)	Step 3 Exp(B)
Age	.75***	.76***	.81**
Living arrangement ^a			
Never-married		.34**	.44*
Divorced		.31**	.35*
Widowed		.61*	.64*
Other		.43**	.49*
Institutionalized		.61	1.08
Educational attainment			1.06***
Income			.99
ADL-capacity			1.14***
Subjective health			1.24**
Driver's license			1.37*
Females (<i>n</i> = 1903)			
<i>Volunteer work</i>	Step 1 Exp(B)	Step 2 Exp(B)	Step 3 Exp(B)
Age	.70***	.71***	.74***
Living arrangement ^a			
Never-married		2.37**	2.10**
Divorced		.82	.77
Widowed		1.57**	1.69***
Other		.96	1.00
Institutionalized		1.58	1.40
Educational attainment			1.08***
Income			1.00
ADL-capacity			1.14***
Subjective health			1.08
Driver's license			1.57***

^a Cohabiting respondents are the reference category.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Conclusion

One of the aims of this chapter was to provide basic, descriptive data on older adults' social participation levels. The usefulness of such an exercise is strongly determined by the quality of one's data. Comparisons of the NESTOR-LSN data with those from other recent large scale Dutch surveys yielded encouraging results. 'Baseline' data were available in the 1990 Time Budget Survey, the 1991 Cultural Change Survey, and the 1991 Compensatory Services Survey. One should be aware, however, that the sample sizes of older adults in these surveys are not as large as in NESTOR-LSN. Comparisons revealed highly similar participation rates, while plausible accounts existed for observed discrepancies. As a result, we feel we can be reasonably confident about the representativeness of our data, at least as far as social participation is concerned.

A second aim of this chapter was to come to an understanding of age differences in social participation. For the active membership of organizations and volunteer work, the participation rates decreased with age, though not necessarily in a linear fashion. Interestingly, restrictive circumstances, though important, did not provide an adequate explanation of the age decline. The inability to attribute age differences to differences in restrictive circumstances is not unique to the present study. For example, similar results were obtained by Schmeets and Geurts (1990) in their analysis of older adults' productive activities in the areas of volunteer work, unpaid help, housework and do-it-yourselfing. Differences in social and economic resources provided only a partial answer to the question of why older adults' participation in productive activities showed a decline with age.

Note, however, that the pattern of findings is wholly consistent with Carstensen's (1987, 1991) socioemotional selectivity theory. She argues that late life reductions in social activity are not necessarily involuntary. Rather, older adults make discriminating choices as do people of younger ages. Throughout life, people adopt strategies whereby pleasurable, energizing activities are maximized, and difficult, tiring activities are minimized. A similar viewpoint has been suggested by Baltes and Baltes (1980, 1990), who speak of the strategy of selective optimization with compensation, which allows older adults to engage in life tasks that are important to them despite a reduction in energy or in biological and mental reserves. Selectivity is also essential to Munnichs' (1966) views on aging, though his terminology is different. He refers to 'renewed engagement at a distance'. The positive

experience of old age that comes with the acceptance of 'finitude', that is the realization that there is no other period following on old age, is accompanied by 'even more stress ... on social relations than in former phases of life' (p. 86). Here again is the view that in late life, people choose to occupy themselves with the activities that are most meaningful to them.

Religious involvement showed no decline with age. In fact, rates of church attendance were highest among the oldest respondents. As mentioned earlier, this finding reflects the increasing secularization in the Netherlands. Others have noted that age-related differences in religiosity are often attributable to the specific groups being compared, rather than aging per se. In their review of longitudinal studies, Argyle and Beit-Hallahmi (1975) conclude that 'the effects of age are less important than are historical trends' (p. 66). The possibility also exists, however, that religious activity assumes special importance in late life. Stephens and Hobfoll (1990) have suggested that spiritual support increases in its potency and effectiveness as access to and communication with others becomes problematic due to a decline in health or increases in sensory losses.

The data indicate that the church is an important avenue of social participation for women in particular. While rates of religious involvement were higher among women than men, opposite gender differences were found for the involvement in voluntary associations and volunteer work. To a large extent then, for these cohorts of older women, access to circles outside the family and the immediate neighbourhood appears to be governed by their religious involvements. Note that the social functions of the church do not apply to church services alone. Often, religious background serves as the basis for other forms of social participation: volunteer work is conducted in and via the church, and one becomes a member of a choir or seniors' advocacy association of a particular religious denomination. Note furthermore that with the increasing secularization in the Netherlands, the traditional avenues of social participation for women are likely to change.

Earlier studies (e.g. Van Deth & Leijenaar, 1994; Mertens & Claessens, 1989; Van Rijsselt, 1995) have revealed a wide range of motives for social participation: a desire to help others, a desire to be useful, a search for fun and enjoyment, a need for personal development, and a desire to meet others. The last motive is particularly relevant to the NESTOR-LSN research program. What are the implications of social participation for the social network? To what extent do the church, voluntary associations and volunteer

work settings serve as recruiting grounds for network members? Do we find that participation in religious, cultural, political, social welfare, and recreational organizations strengthens older adults' social embedment, and consequently helps to maintain their well-being? De Jong Gierveld and Van Tilburg will address these issues in Chapter 9.

Acknowledgement

Many thanks to Alice Day and Aat Liefbroer for their constructive comments on an earlier draft of this chapter.

References

- Arber, S. & Ginn, J. (1990). The meaning of informal care: Gender and the contribution of elderly people. *Ageing and Society*, 10, 429-454.
- Argyle, M. & Beit-Hallahmi, B. (1975). *The social psychology of religion*. Boston: Routledge & Kegan Paul.
- Baltes, P.B. & Baltes, M.M. (1980). Plasticity and variability in psychological aging: Methodological and theoretical issues. In G.E. Gurski (Ed.), *Determining the effects of aging on the central nervous system* (pp. 41-66). Berlin: Schering.
- Baltes, P.B. & Baltes, M.M. (1990). Psychological perspectives on successful aging: The model of selective optimization with compensation. In P.B. Baltes & M.M. Baltes (Eds.), *Successful aging: Perspectives from the behavioral sciences* (pp. 1-34). Cambridge: University Press.
- Becker, J.W. & Vink, R. (1994). *Secularisatie in Nederland, 1966-1991* [Secularization in the Netherlands, 1966-1991]. Sociale en Culturele Studies 19. Den Haag: VUGA.
- Berg, H. van den (1988). Hoe operationaliseer je een mogelijkheid? [How does one operationalize a possibility?]. In C.P.M. Knipscheer, J. Baars & M. Severijns (Eds.), *Uitzicht op ouder worden : Een verkenning van nieuwe rollen* (pp. 149-163). Assen: Van Gorcum.
- Bernard, J. (1973). *The future of marriage*. New York: Bantam.
- Carstensen, L.L. (1987). Age-related changes in social activity. In L.L. Carstensen & B.A. Edelstein (Eds.), *Handbook of clinical gerontology* (pp. 222-237). Elmsford, NY: Pergamon.

- Carstensen, L.L. (1991). Socioemotional selectivity theory: Social activity in life-span context. *Annual Review of Gerontology and Geriatrics*, 11, 195-217.
- Cumming, E. & Henry, W.H. (1961). *Growing old: The process of disengagement*. New York: Basic.
- Daal, H.J. van. (1990). *Vrijwilligerswerk en informele hulp in Nederland : Een inventarisatie van onbetaald werk buiten het eigen huishouden, in het bijzonder op het gebied van de hulpverlening* [Volunteer work and informal help in the Netherlands: An inventory of unpaid work outside the household, personal care in particular]. Den Haag: NIMAVO.
- Deem, R. (1982). Women, leisure and inequality. *Leisure Studies*, 1, 29-46.
- Deth, J. van & Leijenaar, M. (1994). De politieke participatie van maatschappelijk actieven [The political participation of the socially active]. In P. Dekker (ed), *Civil society: Verkenningen van een perspectief op vrijwilligerswerk* (pp 221-239). Den Haag: VUGA.
- Evans, S.M. & Boyte, H.C. (1992). *Free spaces*. Chicago: University Press.
- Havighurst, R. & Albrecht, R. (1953). *Older people*. New York: Longmans, Green.
- Herzog, A.R., Kahn, R.L., Morgan, J.M., Jackson, J.S., & Antonucci, T.C. (1989). Age differences in productive activities. *Journal of Gerontology*, 44, S129-138.
- Koopmans, R. (1994). Paal en perk aan een bezweringsformule: Naar een empirische invulling van de civil society [Setting bounds upon an incantation: Toward an empirical analysis of the civil society]. In P. Dekker (ed), *Civil society: Verkenningen van een perspectief op vrijwilligerswerk* (pp 283-311). Den Haag: VUGA.
- Kort, I. de. (1995). Educatie in de ouderenbond [Adult education in seniors' advocacy associations]. In C.C.M. Smits & M.F.F.J. Vernooij-Dassen (Eds.), *De toekomst van vrouwen: Oudere vrouwen in onderzoek, beleid en praktijk* (pp. 89-95). Amsterdam: VU University Press.
- Lameiro García, L. & van Rijsselt, R.J.T. (1992). Sociale participatie van ouderen in Nederland: Inventarisatie en analyse van een onderzoeksterrein [The social participation of older adults in the Netherlands: An inventory and analysis of a field of research]. *Sociale Interventie*, 1, 83-93.
- Lopata, H.Z. (1973). The effects of schooling on social contacts of urban women. *American Journal of Sociology*, 79, 604-619.
- Maddox, G.L. (1965). Fact and artifact: Evidence bearing on disengagement theory from the Duke Geriatrics Project. *Human Development*, 8, 117-130.

- Maddox, G.L. (1970). Themes and issues in sociological theories of human aging. *Human Development*, 13, 17-27.
- Mertens, F. & Claessens, L. (1989). *Ouder enthousiasme: Speerpunt van de ouderen emancipatie* [Old age enthusiasm: Focus of the emancipation of the elderly]. Amsterdam: Vrije Universiteit, Vakgroep Sociologie.
- Munnichs, J.M.A. (1966). *Old age and finitude: A contribution to psychogerontology*. Basel: Karger.
- Pohjolainen, P. (1991). Social participation and life style: A longitudinal and cohort study. *Journal of Cross-Cultural Gerontology*, 6, 109-117.
- Rijsselt, R.J.T. van (1994). Societal participation. In D.J.H. Deeg & M. Westendorp-de Serièrè (Eds.), *Autonomy and well-being in the aging population I: Report from the Longitudinal Aging Study Amsterdam 1992-1993* (pp. 97-102). Amsterdam: VU University Press.
- Schmeets, J.J.G. & Geurts, J.J.M. (1990). Deelname aan maatschappelijke en huishoudelijke activiteiten door ouderen: Een sociaal-economisch verklaringsmodel [Older adults' participation in societal and housekeeping activities: A social-economic explanatory model]. *Tijdschrift voor Gerontologie en Geriatrie*, 21, 249-257.
- Simons, R.L. (1983-84). Specificity and substitution in the social networks of the elderly. *International Journal of Aging and Human Development*, 18, 121-139.
- Stephens, M.A.P. & Hobfoll, S.E. (1990). Ecological perspectives on stress and coping in later-life families. In M.A.P. Stephens (Ed.), *Stress and coping in later-life families* (pp. 287-304). New York: Hemisphere.
- Stroebe, M. & Stroebe, W. (1983). Who suffers more? Sex differences in health risks of the widowed. *Psychological Bulletin*, 93, 297-301.
- Timmermans, J.M. (1993). *Rapportage ouderen 1993* [Report on the elderly 1993]. Rijswijk: Sociaal en Cultureel Planbureau.

DELINEATION OF THE SOCIAL NETWORK AND DIFFERENCES IN NETWORK SIZE

Theo van Tilburg

There is a long-standing tradition in the field of gerontology of studying the social networks of the aged. Most studies focus on the *support* networks of the elderly and describe their personal networks by means of the supportive features of their relationships. Some studies define a social network as a set of persons with whom specific types of support are exchanged (Fischer, Jackson, Stueve, Gerson, Jones, & Baldassare, 1977; Wellman, 1981) or include relationships that are to some degree important to the focal person (Kahn & Antonucci, 1980). All these definitions narrow the study of social networks down to structures in which support is exchanged (Antonucci, 1985). However, individuals maintain many relationships in which very little if any support is exchanged. Social interaction can also be based on more or less institutionalized formal relationships, for example, those with relatives, co-workers, fellow members of organizations, and neighbours. Researchers who use these institutionalized relationships as their point of departure take living arrangements, household composition, marital status, and employment status as criteria for network membership (Berkman & Syme, 1979; Brody, Poulshock, and Masciocchi, 1978; Lin, 1982; Shanas, 1979).

Definitions based on the contents of relationships (exchange method), role relationships (role-relation method), or the affective value of relationships (affective method) will tap different parts of the total personal network (Broese van Groenou & Van Tilburg, forthcoming). The definition that is used depends on the research objectives. In our research program, we view the social networks of the elderly as interlocking structures in which supportive and non-supportive interactions both occur. As described in Chapter 1, the focus is on a multiplex system of partly overlapping sets of relationships in

which interactions take place a regular basis. This indicates to what degree the elderly are socially involved and the number of relatives, friends, co-workers, and so on with whom contact is maintained. In the second place, attention is devoted to the support exchanged within these relationships, using support as an indicator of how the networks function in daily living and coping with important life events. This chapter describes the adopted network delineation method and differences in network size, while Chapter 6 describes the composition of the social networks, Chapter 7 focuses on the so-called proximate network, and Chapter 8 considers the exchange of support within the core network relationships.

Applied delineation method

Our main objective was to identify the networks that reflected the socially active relationships of the elderly respondents in the core and outer layers of the larger network. In choosing a method to identify the social networks, several criteria were selected regarding who was to be included. First, the network composition had to be as diverse as possible, implying that every type of relationship deserved the same chance of inclusion in the network. This criterion led to a *domain-specific* approach in the network identification, using seven formal types of relationships (see below). A second objective was to include all the network members with whom the elderly respondents had *regular contact*, thus identifying their socially active relationships. However, the aim was not to include everybody with whom they maintained contact. To avoid including people with whom contact was regular by definition (such as all colleagues and all members of the bridge club), the criterion of the *importance* of the relationship was added. The elderly were requested to nominate the network members with whom they had regular contact and who were important to them. This enabled them, for example, to nominate the two colleagues with whom contact was relatively close and to leave out others.

This *domain-contact* approach combines the different roles that an individual plays in society, with contact frequency and importance of relationships as criteria for identifying network members. The identification method was derived from the method used in the study by Cochran, Larner, Riley, Gunnarson, and Henderson (1990). Network members were identified in seven domains of the network: household members (including the spouse), children and their partners, other relatives, neighbours, persons from work or classes (including voluntary work), members of organizations (e.g. athletic clubs,

church congregations, political parties), and others (friends, acquaintances). With respect to the domains, the question was posed: 'Name the persons (e.g. in your neighbourhood) with whom you are in touch regularly and who are important to you'. Only persons above the age of 18 could be nominated. A limit of 80 was set on the number of names to be mentioned. Information regarding the type of relationship, sex, and contact frequency was gathered on all the identified network members. Next, a maximum of twelve with the highest contact frequency were selected by the computer. For these 12 (or fewer, if fewer available) network members, information was gathered with respect to age, travelling time, duration of the relationship, employment status, marital status, and the exchange of instrumental and emotional support.

In this chapter, we describe the type and sex of the network members and the contact frequency within the relationships. Network size is described and is given for respondents of different ages, for males and females, and for respondents in different types of living arrangements. The living arrangements are: three categories of living alone, namely unmarried, divorced or widowed, living with a partner or spouse (and possibly with others), living in a multi-person household, that is, with others without a partner or spouse, and institutionalized.

Respondents

In 1992, face-to-face interviews were conducted with 4,494 respondents. They constituted a stratified random sample of men and women born in the years 1903 to 1937. The random sample was taken from the registers of 11 municipalities: the city of Amsterdam and two rural communities in the west, one city and two rural communities in the south, and one city and four rural communities in the east of the Netherlands. The response was 61.7%. The data were collected by 88 interviewers.

The average age of the respondents was 72.8. Most were living in their own homes: 1,298 (28.9%) were not married and lived alone, 2,582 (57.5%) lived with a partner, and 206 (4.6%) lived in another kind of multi-person household. Finally, 351 (7.8%) lived in an institution of some sort, such as a nursing home, home for the aged, psychiatric hospital, or shelter for the homeless.

In this chapter, we confine ourselves to the 4,059 respondents (1,985 men and 2,074 women) who provided information about their social network. Data are missing from: 345 respondents with serious health problems who participated in a short version of the questionnaire, 37 respondents with whom the interview was terminated before the section on the network delineation, 33 refused to participate in the network delineation, and 20 respondents in whose case there were technical problems with the interview program.

Characteristics of nominated relationships

As noted above, one of the aims of applying our method in this study was to delineate networks with a wide variety of types of relationships. Relationship type is an important characteristic because it can grant insight into the kinds of provisions available (Dykstra, 1990). The respondents who participated in the network delineation nominated a total of 54,522 network members. *Table 5.1* shows the types of relationships in the seven domains that were the basis of our delineation method. This table shows that, as intended, the delineated networks were composed of different types of relationships. Of the relationships in the network (partner relationships excluded), 59.4% were with kin. Children were nominated the most frequently, followed by sons-in-law and daughters-in-law, brothers-in-law and sisters-in-law, and siblings. Somewhat surprising is the large number of cousins, nieces, and nephews. Of non-kin relationships, neighbours were nominated most frequently, followed by friends, fellow members of organizations, acquaintances, and (former) colleagues. One should bear in mind that once someone was nominated, for example, in the domain of (other) family members, the respondent could not mention his or her name again, for example, in the domains of neighbours or friends. Therefore, the first domains had a greater chance to generate network members than the later ones.

A second aim of our method was to identify relationships with a relatively high contact frequency. We measured the contact frequency on an ordinal scale with eight response categories: 'never or almost never', 'yearly or less often', 'a few times a year', 'once a month', 'once every two weeks', 'once a week', 'a few times a week', and 'daily'. For the present analysis, the scale was converted into number of days a year. The mean was 84 days ($SD = 110$), indicating that, on average, the contact frequency was between once every two weeks and once a week.

Table 5.1. *Types of relationships* ($N = 54,521$; N of networks = 4,059)

domain and type	N	domain and type	N
<i>household members</i>		<i>neighbours</i>	
partner or spouse	2467	neighbour	6700
son or daughter	693	former neighbour	78
brother or sister	46		
grandson or granddaughter	17	<i>contacts through work and classes</i>	
friend	6	colleague (including former	2369
other	52	colleague and spouse's colleague)	
		volunteer	998
<i>children</i>		fellow student	115
son or daughter	8768		
son-in-law, daughter-in-law	5845	<i>members of organizations</i>	2852
		(e.g. church)	
<i>relatives</i>			
parent	256	<i>'other' relationships</i>	
father-in-law, mother-in-law	206	friend	5455
brother or sister	4365	acquaintance	2369
brother-in-law, sister-in-law	5323	a person one meets on the street	5
grandson or granddaughter	1573	general practitioner or clergyman	6
cousin, niece or nephew	3146	helper	38
uncle or aunt	314	partner/spouse, not in the household	106
other	267	other	86

There were more females than males in the networks, respectively 54.6 and 45.4%. Of the 54,522 relationships, 55.6% were same-sex relationships (30.6% between a female respondent and a female network member, and 25.1% between a male respondent and a male network member), and 44.4% were cross-sex relationships (20.3% between a female respondent and a male network member, and 24.1% between a male respondent and a female network member).

Evaluation of the delineation criteria

As intended, the nominated relationships were a selection: not all existing ties were mentioned, only the ones the respondents felt met the criteria. This is evident from the analyses of the contact frequency with children and siblings. As was noted in Chapter 3, early in the interview the respondents reported

the names of all their surviving children and siblings. This served as a way to compare those who were part of the network with those who were not; 76.7% of the children and 38.5% of the siblings were network members. We can assume that the respondents not only made a selection from the pool of their children, but also from the pool of all their relationships.

The mean contact frequency per year with the children in the network (145 days) differed from the contact frequency with the other children (64 days; $t_{(5003.1)} = 35.4, p < .001$), and the mean contact frequency with the siblings in the network (57 days) differed from the contact frequency with the other siblings (20 days; $t_{(6134.7)} = 24.4, p < .001$). These data clearly show that, at least for the relationship categories of children and siblings, on average, the contact frequency was higher with those who were in the network than with those who were not. A second conclusion might be that the respondents selected, at least partly, on the basis of the criterion of regular contact.

Though network members appear to have been selected according to the specified criteria, we do not wish to suggest that the criteria were uniformly interpreted. For example, analyses of the contact frequency indicated a wide variability in the interpretation of 'regular contact'. In 0.2% of the 54,522 relationships this was never, and in 1.0% this was yearly or less often. To assess whether these differences had any implications for our findings, we examined the association between network size and contact frequency. The rationale for doing so was that the conclusions from a study showing that infrequent contacts are most often part of a small network are quite different from conclusions that demonstrate the opposite. In the former case, infrequent contacts are over-rated and of central importance; in the latter, they can more easily be replaced. Our results indicated that infrequent relationships were more often referred to by the respondents with large networks than by the respondents with small ones ($r = .21$). These differences were reflected in the mean contact frequency with network members: the correlation between mean contact frequency and network size was $-.39$. This indicates that, on average, the network size of elderly respondents with large networks is 'over-estimated'. Network size can be corrected by taking into account relationships with persons contacted at least once a month only. The correlation between this network size and the original measure, i.e. the number of relationships that were referred to, was $.92$, indicating that these two measurements tapped approximately the same phenomenon. In other words, the observed variability in the interpretation of the selection criterion 'regular contact' does not appear to have any repercussions for the substantive analyses.

Description of network size

Network size is one of the most important characteristics of a network. Firstly, network size is an indicator of the degree of socializing. Secondly, it is an indicator of the potential instrumental and emotional support. In other words, the larger a network is, the more social support it can generate to the anchor.

The 4,059 respondents who participated in the network delineation procedure nominated 54,522 network members, which was an average of 13.4 ($SD = 9.4$). (If we weight the data to make them as representative of the Dutch population as possible, the mean is 14.3 and $SD = 9.7$). There was a wide variation around the mean, as is illustrated in *Figure 5.1*. Fifteen respondents did not nominate any network members at all, and 87 respondents nominated only one. On the other hand, some respondents nominated a large number of network members, with a maximum of 77.

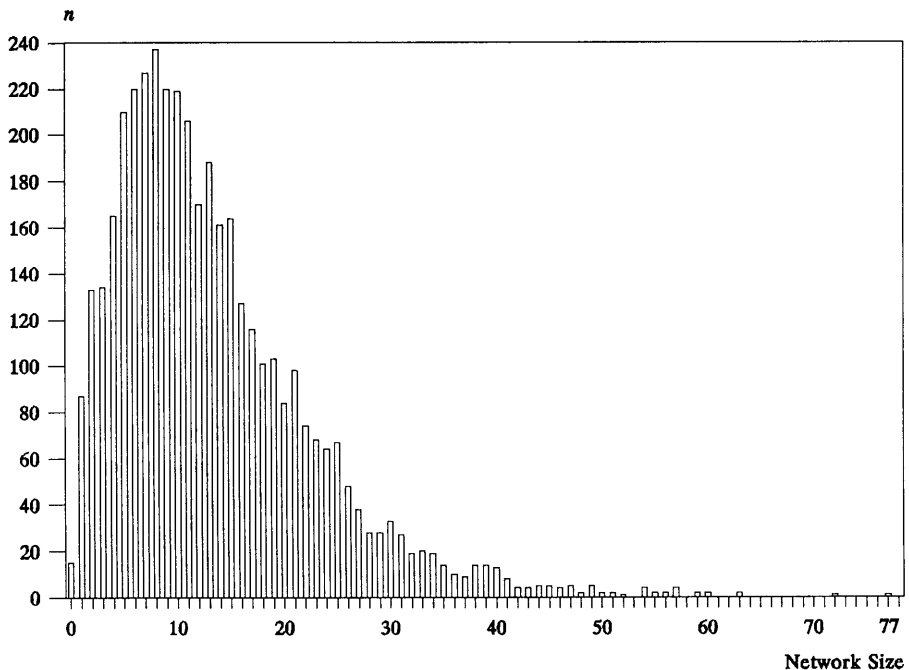


Figure 5.1. Frequency of the network size

Differences in network size

The networks of males and females were about equal in size ($t_{(4057)} = .44$, $p = .66$). For males the mean was 13.5 ($SD = 9.6$) and for females 13.4 ($SD = 9.3$). Bivariate analyses showed significant differences according to living arrangements ($F_{(4007,5)} = 37.5$, $p < .001$) and age cohort ($F_{(4052,6)} = 37.6$, $p < .001$). On average, the respondents living with a partner had the largest networks (14.9), and the institutionalized respondents had the smallest (8.2). There were also differences between the respondents in the different age cohorts, with the lowest mean network size (9.4) for the oldest (85-89) and the highest (16.6) for the youngest (55-59).

The links between sex and living arrangement are well-known (older women are more likely to be living alone than are older men) as are those between age and living arrangement (those living with their spouses tend to be younger than the widowed living alone). In our sample, however, as the results of the adopted stratification procedure, there is no link between sex and age. To check for the links between sex, living arrangement and age, a multivariate analysis (ANOVA) was performed, whereby the distinctions with respect to sex and living arrangements were combined into a single twelve-category variable (males and females in each of the six living arrangement categories). *Figure 5.2* shows the mean network size for the respondents living alone (unmarried, divorced, or widowed), living with their partner or spouse, living in a multi-person household without a partner, and living in a home for the aged or a nursing home, for males and females separately and controlled for differences in birth year ($F_{(3934,11)} = 9.1$, $p < .001$).

Figure 5.2 shows that the networks of the respondents who lived with a spouse or partner were the largest. There was no difference between the males (mean network size 14.5) and females (mean 14.3) in this category. The smallest networks were found for males who lived alone and were unmarried (mean 7.8) or divorced (mean 9.2) or lived in a multi-person household without a partner (mean 9.9). In the middle were the unmarried and divorced females who lived alone (means 12.1 and 10.6, respectively), males and females who were institutionalized (means 10.8 and 10.2 for males and females, respectively), females in a multi-person household (mean 12.8), and males and females who lived alone and were widowed (means 12.0 and 13.3, respectively). The small number of respondents who are married and are living separated from their spouse, living in a psychiatric hospital or a shelter for the homeless were excluded from the analysis.

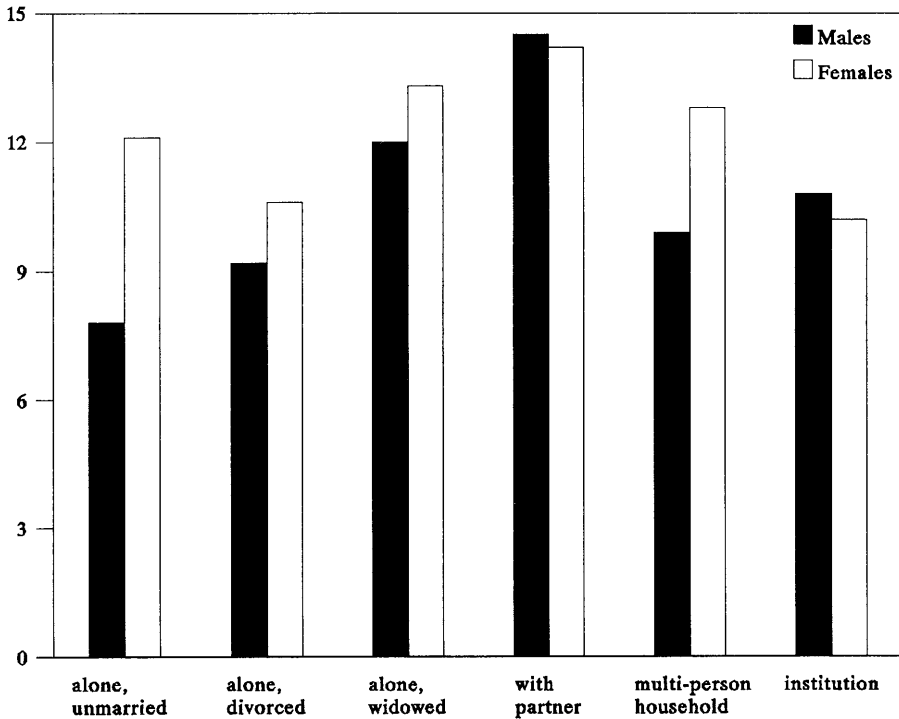


Figure 5.2. Mean network size by living arrangements and sex, controlled for age

Figure 5.3 shows the mean network size for the respondents of different birth cohorts. The youngest respondents had the highest mean (16.3), the oldest the lowest (10.4), and the mean network size decreased almost linearly with age ($F_{(3934,6)} = 19.7, p < .001$). There was no significant interaction effect with the network size of sex and living arrangements on the one hand, or age on the other ($F_{(3934,61)} = 53.4, p = .99$).

If these results on differences in network size are combined, we can conclude that there are large differences, with the lowest average network size (6.2) for the oldest males who were unmarried and living alone, and the highest average network size (17.8) for the youngest males living with a partner. However, the explained variance is only 7.7%, indicating that there are large differences within the various categories. Of the explained variance, 2.3% can be attributed exclusively to the effects of sex and living arrangements, and 2.7% to the effects of age.

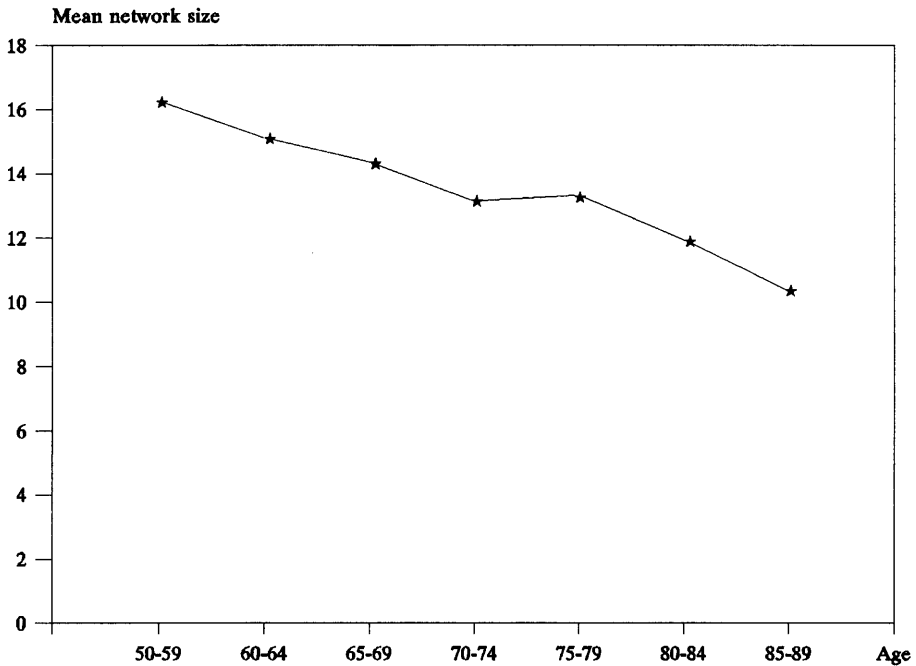


Figure 5.3. Mean network size by age, controlled for living arrangements and sex

Comparison with results of other studies

We feel it is important to examine the results of our method in the perspective of the results of other delineation methods, such as the affective or the exchange method. In evaluating the mean network size in our study, one should bear in mind that the number of network members depends on the delineation method that is used. Using data from four specific samples of Dutch adults, Van Sonderen, Ormel, Brilman, & Linden van den Heuvell (1990) demonstrated that three different delineation methods produced different network sizes, with means ranging from 9.0 for the role-relation approach, via 12.9 for the affective approach, to 20.7 for the exchange approach. Note that a specific method can have several applications. For example, studies using the exchange method, which is a method derived from McCallister and Fischer (1978), can use different numbers of name-generating questions (ranging from 6 to 20) and can set different maximum numbers of names to be mentioned in response to each question (ranging from five to

ten). The more questions that are used and the higher the maximum per question, the more names can be generated.

The average number of 13.4 that we found is about equal to the number Morgan, Neal, and Carder (1994) found in their study of older widows. Morgan used the affective method derived from the study by Kahn and Antonucci (1981), and asked about kin and non-kin separately. In the original study, Kahn, Wethington, and Ingersoll-Dayton (1987) found an average network size of 8.9. In six other studies using the affective method, with samples not specifically of the aged, the mean network size varied from 3.0 to 6.7 (Milardo, 1992). The average number we found was lower than the number Van Tilburg (1992) found in his study of retiring men (mean 20.0), using 20 exchange questions. In the study of Dutch adults by Van der Poel (1993), the exchange procedure resulted in a smaller network with an average size of 9.6. In the study by Mugfold and Kendig (1986), the exchange procedure resulted in an average of 6.6 for Australian elderly. In five other studies, with samples not specifically of the aged, using the exchange method, mean network sizes between 10.1 and 21.8 were reported (Milardo, 1992).

The study by Van Sonderen *et al.* (1990) showed that three different delineation methods not only produced different network sizes, but also large differences with respect to network composition. These differences pertained to the number of people in the categories of in-laws, friends, acquaintances, neighbours, and work-related relationships. The affective delineation method produced a particularly large percentage of kin relationships. In his review of six studies on the networks of adults using this method, Milardo (1992) reported percentages between 48 and 67. In the networks of the elderly in the study by Morgan, Schuster, and Butler (1991), the percentage was even higher: 78. In general, the exchange method produces lower percentages of kin. Mugfold and Kendig (1986) reported 65% and Van der Poel (1993) reported 53% kin relationships. The networks of adults in the large study by Tjhuis (1994) consisted of an average of 41% relatives. Reviewing five studies of adults using the exchange method, Milardo (1992) reported percentages between 19 and 48.

Reviewing the network size and percentage of kin resulting from our method—with two delineation criteria being regular and important contact—we can conclude that for both of these aspects, our study is about in the middle of a large number of Dutch and foreign studies on adults and older adults for which reports are available.

The small effect of age on network size in our study was in keeping with the results of other studies using samples of the elderly. Earlier studies revealed mixed results on the association between age and network size (Knipscheer, 1993; Schulz & Rau, 1985). In some studies (e.g. Morgan, 1988), a smaller network was found for the oldest than for the youngest elderly, and in other studies (e.g. Antonucci & Akiyama, 1987; Wenger, 1984), no age-related differences were observed. However, most of these studies, like ours, were cross-sectional, and thus not designed to examine changes in network size across time. For the studies that were designed longitudinally (e.g. Van Tilburg, 1992; Wenger, 1986), the relatively short interval between the measurements and the small sample size made it difficult to review the magnitude of the changes in network size.

Summary

Networks were delineated using the domain-contact approach. Seven domains of contact were distinguished. Respondents were asked to refer to persons in these domains with whom they had regular and important contact. We delineated networks with a wide variety of types of relationships and relatively high contact frequency. The nominated relationships were a selection: not all the respondents' relationships were mentioned, only the ones they felt met the criteria.

Network size is the total number of network members. The networks of males and females were about equal in size. Differences in network size according to living arrangement and age cohort were observed.

References

- Antonucci, T.C. (1985). Personal characteristics, social support, and social behavior. In R.H. Binstock & E. Shanas (Eds.), *Handbook of aging and the social sciences* (pp. 94-128). New York: Van Nostrand Reinhold.
- Antonucci, T.C., & Akiyama, H. (1987). Social networks in adult life and a preliminary examination of the convoy model. *Journal of Gerontology*, 42, 519-527.

- Berkman, L.F., & Syme, S.L. (1979). Social networks, host resistance and mortality: A nine-year follow-up study of Alameda County residents. *American Journal of Epidemiology*, 109, 186-204.
- Brody, S.J., Poulshock, S.W., & Masciocchi, C.F. (1978). The family caring unit: A major consideration in the long-term support system. *The Gerontologist*, 21, 471-480.
- Broese van Groenou, M.I., & Tilburg, T.G. van. (forthcoming). Network analysis. In J.E. Birren (Ed.), *Encyclopedia of gerontology: Age, aging, and the aged*. San Diego: Academic.
- Cochran, M., Lerner, M., Riley, D., Gunnarson, L., & Henderson, C.R. (1990). *Extending families: The social networks of parents and their children*. Cambridge: University Press.
- Dykstra, P.A. (1990). *Next of (non)kin: The importance of primary relationships for older adults' well-being*. Amsterdam: Swets & Zeitlinger.
- Fischer, C.S., Jackson, R.M., Stueve, C.A., Gerson, K., Jones, L.M., & Baldassare, M. (1977). *Networks and places: Social relations in the urban setting*. New York: Free Press.
- Kahn, R.L., & Antonucci, T.C. (1980). Convoys over the life course: Attachment, roles and social support. In P.B. Baltes & O. Brim (Eds.), *Life-span development and behavior* (pp. 253-286). New York: Academic.
- Kahn, R.L., & Antonucci, T.C. (1981). Convoys of social support: A life course approach. In S.B. Kiesler, J.N. Morgan, & V.K. Oppenheimer (Eds.), *Aging: Social change* (pp. 383-405). New York: Academic.
- Kahn, R.L., Wethington, E., & Ingersoll-Dayton, B. (1987). Social support and social networks: Determinants, effects, and interactions. In R.P. Abeles (Ed.), *Life-span perspectives and social psychology* (pp. 139-165). Hillsdale, NJ: Erlbaum.
- Knipscheer, C.P.M. (1993). Aging, social environment and social support. *European Journal of Gerontology*, 1, 421-435.
- Lin, N. (1982). Social resources and instrumental action. In P.V. Marsden & N. Lin (Eds.), *Social structure and network analysis* (pp. 131-145). Beverly Hills: Sage.
- McCallister, L., & Fischer, C.S. (1978). A procedure for surveying personal networks. *Sociological Methods & Research*, 7, 131-148.
- Milardo, R.M. (1992). Comparative methods for delineating social networks. *Journal of Social and Personal Relationships*, 9, 447-461.
- Morgan, D.L. (1988). Age differences in social network participation. *Journal of Gerontology*, 43, 129-137.

- Morgan, D.L., Neal, M.B., & Carder, P. (1994). Changes in core and extended networks following a major life event. *Paper presented at the International Sunbelt Social Network Conference, February 17-20.*
- Morgan, D.L., Schuster, T.L., & Butler, E.W. (1991). Role reversals in the exchange of social support. *Journal of Gerontology*, 46, 278-287.
- Mugfold, S., & Kendig, H.L. (1986). Social relations: Networks and ties. In H.L. Kendig (Ed.), *Ageing and families: A social networks perspective* (pp. 38-59). Sydney: Allen & Unwin.
- Poel, M.G.M. van der (1993). *Personal networks: A rational-choice explanation of their size and composition*. Amsterdam: Swets & Zeitlinger.
- Schulz, R., & Rau, M.T. (1985). Social support through the life course. In S. Cohen & S.L. Syme (Eds.), *Social support and health* (pp. 129-149). Orlando: Academic.
- Shanas, E. (1979). The family as a social support system in old age. *The Gerontologist*, 19, 169-174.
- Sonderen, F.L.P. van, Ormel, J., Brilman, E.I., & Linden van den Heuvel, G.F.E.C. van. (1990). Personal network delineation: A comparison of the exchange, affective and role relation approach. In C.P.M. Knipscheer & T.C. Antonucci (Eds.), *Social network research: Substantive issues and methodological questions* (pp. 101-120). Amsterdam: Swets & Zeitlinger.
- Tijhuis, M.A.R. (1994). *Social networks and health*. Dissertation, Rijksuniversiteit Utrecht.
- Tilburg, T.G. van. (1992). Support networks before and after retirement. *Journal of Social and Personal Relationships*, 9, 433-445.
- Wellman, B. (1981). Applying network analysis to the study of support. In B.H. Gottlieb (Ed.), *Social networks and social support* (pp. 171-200). London: Sage.
- Wenger, G.C. (1984). *The supportive network: Coping with old age*. London: George Allen & Unwin.
- Wenger, G.C. (1986). A longitudinal study of changes and adaptations in the support networks of Welsh elderly over 75. *Journal of Cross-cultural Gerontology*, 1, 345-357.

NETWORK COMPOSITION

Pearl Dykstra

This chapter focuses on the types of relationships which make up older adults' networks. Relationship *type* is the label people tend to use to identify others (Fischer, 1982). Examples are mother/father, brother/sister, friend, colleague and neighbour. In the present chapter, eight relationship types are distinguished, on the basis of four criteria (see *Figure 6.1*). The eight relationship types are: children, children-in-law, siblings, siblings-in-law, 'other' kin, friends, neighbours, and 'other' non-kin. Partner relationships are excluded.

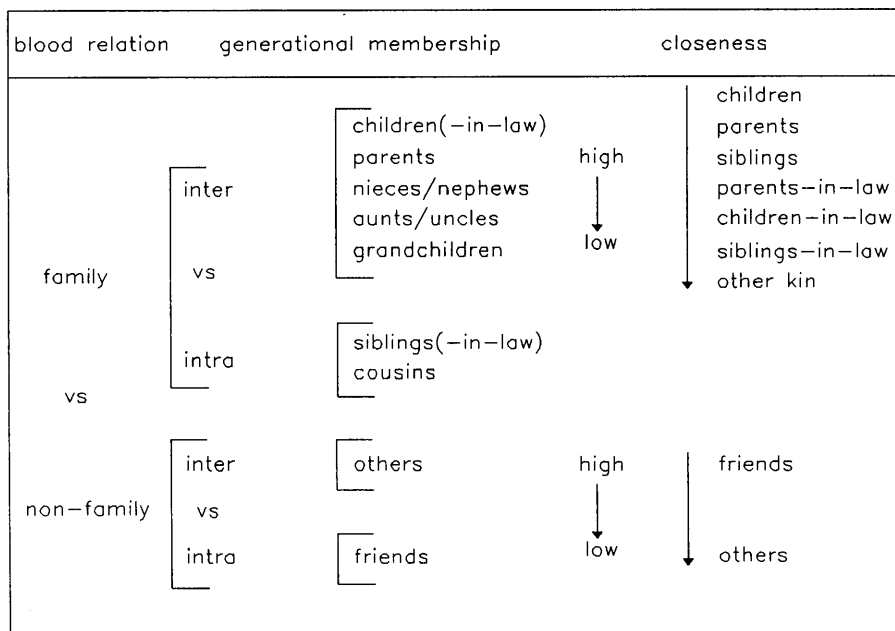


Figure 6.1. Criteria underlying the categorization of relationships

First the distinction is drawn between *kin* and *non-kin*, which is roughly a distinction between 'acquired' and 'voluntary' relationships. Kin relationships are characterized by concern and obligation, while compatibility and enjoyment are the basis of non-kin relationships. Note that these are general differences; there is considerable overlap between kin and non-kin in the functions they perform (Allan, 1979). Next, within these two categories, *intragenerational* relationships are distinguished from *intergenerational* relationships (e.g. siblings versus children, friends versus remaining non-kin). The third distinction is the level of *emotional closeness*. Among kin, the degree of consanguinity indicates differences in closeness (children closer than siblings; both closer than extended kin such as aunts and uncles, cousins, and nieces and nephews). Furthermore, blood relations are generally closer than in-laws. Among non-kin, friendship indicates closeness. Relationships assigned to the category of friends are closer than those in the remaining categories (e.g. neighbours, members of voluntary associations, and colleagues). The fourth distinction is *geographic proximity*, meaning that neighbours are considered separately.

Two indicators of network composition are commonly used. The first is a rather global, undifferentiated measure, namely the *proportion of kin* in the network. This characteristic representing the diversity of linkages in the network, which in turn is associated with the diversity of resources to which a person has access. Hammer (1983), for example, has argued that a high proportion of kin indicates access to a more bounded set of resources, implying greater difficulty in obtaining the social feedback necessary to normal behavioral functioning. In a similar vein, Marsden (1987) puts forward that networks primarily composed of kin indicate integration into a limited set of social circles (Marsden, 1987). Not surprisingly, empirical studies have reported a positive association between the proportion of kin in the network and loneliness (Dykstra, 1990a; Knipscheer, 1980; Thijssen, 1983). The more uniformly composed of kin a person's network is, the more lonely that person is likely to be.

The second indicator allows more detailed analyses. It is the *number* of persons of *each type* in the network. Relationship type generally says something about available support (Dykstra, 1990a, 1993). The different types of relationships composing the network provide an indication of the access to different forms and/or amounts of support (Wellman & Wortley, 1989). Differences in supportive functions tend to be linked with the structural properties of relationships (Litwak & Szelenyi, 1969). Tasks requiring

residential proximity, such as assistance during an emergency at home, can best be handled by neighbours. Family members can best perform tasks requiring extended commitment, such as care at home during a prolonged illness. For tasks assuming similarity in lifestyles, it is best to rely on friends. Following Litwak and Szelenyi, one can suggest that the extent to which different types of relationships differ along the dimensions of proximity, extended commitment and similarity in interests and values, indicates differences in the support they provide.

The purpose of this chapter is to supplement the analyses on network size which were described by Van Tilburg in Chapter 5. One of his findings is that the networks of older men and women are equally large. Though they may nominate roughly similar numbers of relationships, the question of whether men and women nominate similar types of relationships remains open. In other words, there may be gender differences in network composition. The general consensus in the literature is that 'there are well established sex differences in social relationships... Women tend to have ... more different types of relationships with different types of people, i.e. more multiplex relationships; to have more frequent contact with their network members; and to receive supports from multiple sources' (Antonucci, 1990, p. 212). These differences tend to be linked with differences between men and women in the opportunities to meet and interact with others, and differences in social skills and desires for social contact (Fischer & Olicker, 1983). This chapter starts with an analysis of *gender* differences in network composition. More particularly, the question is addressed whether differences in the types of relationships making up men's and women's networks can be interpreted in terms of differences in opportunities for social interaction.

In Chapter 5, Van Tilburg also showed differences in network size associated with older adults' living arrangements. On average, those living with a partner had the largest networks. Among those living alone, there were differences in network size associated with marital status: on average, the widowed had larger networks than either the never-married or the divorced. By virtue of their marital and family history, older adults vary in the types of ties available to them. Upon becoming involved in a partner relationship, people acquire in-laws, and interaction with others becomes more couple-companionate (Milardo, Johnson, & Huston, 1983). The partner gives access to a new circle of contacts. For many, marriage entails having a family of one's own, a family that expands with the marriage of one's children and the arrival of grandchildren. As the result of divorce or widowhood, people not only lose

a partner relationship, but they often also lose the relationships that were maintained by or shared with the partner (Broese van Groenou, 1991; Lopata, 1979; Stevens, 1989). By definition, the availability of kin restricts the diversity in network composition: those without kin will have networks which are uniformly composed of non-kin. The availability of kin is closely linked with one's marital and family history. This brings us to the second focus of this chapter: the examination of differences in network composition associated with marriage and parenthood. Whether or not people have married generally has consequences for the availability of in-laws and of children. Our primary concern however, is with the consequences of *parenthood*. We will be looking at differences between those with and those without children alive. The reason for doing so is that it is often suggested that the childless form a group at risk, for example, at risk of being without necessary supports. Our objective is to find out whether this claim finds empirical support.

A third finding reported by Van Tilburg is an inverse, near linear relationship between network size and age. The question that immediately presents itself is: what is the nature of this decline? Is there a gradual loss of relationships? Is the decline in number observed across all types of relationships, or are particular types of relationships less likely to survive than others? Is there a reshuffling of social ties whereby certain types of relationships become more and others become less prominent? These questions serve as the backdrop for the third focus of this chapter: the examination of *age* differences in network composition.

Gender differences in network composition

Generally speaking, there are two explanations of differences in the networks of men and women (Dykstra, 1990b; Fischer & Oliker, 1983; Moore, 1990). One focuses on contrasting relational *dispositions*, which are the result of socialization practices: women are viewed as having better social skills, and a greater capacity for the realization of empathy and intimacy in their relationships. The other focuses on the dissimilar *structural* circumstances in which men and women typically find themselves: through paid employment men have access to a wider pool of social contacts, while childcare and homemaking constrain women's opportunities to form ties outside the family and the neighbourhood. Fischer and Oliker (1983) point out that although women may be generally more inclined to have more varied friendship and family networks, this difference in disposition only becomes evident in

circumstances where the opportunities for socializing are balanced for men and women. In their view, later life (the 'post-parental' years) offers such circumstances. In the Fischer and Oliker study, older women continued to make new friends while older men were less likely to develop new ties to replace lost ones.

Relational dispositions say something about the willingness to invest in relationships, sociable tendencies, and the need to share experiences and viewpoints with others. They are indications of how people generally relate to others. As such, their impact on the network is likely to be relatively generalized. They say little about the engagement in specific types of relationships, and for that reason are not immediately relevant to an explanation of gender differences in network composition. An examination of differences in structural circumstances forms a better starting point. Starting from the assumption that the *recruiting grounds* for relationships differ between men and women, one should find that different types of relationships tend to be represented in men's and women's networks. Men are likely to have a relatively high proportion of 'other' non-kin in their networks (i.e. ex-colleagues, fellow members of clubs and organizations), given their greater involvement in paid employment and voluntary associations (see e.g. Chapter 4). Women are likely to have relatively high proportions of kin and neighbours in their networks, given the presumed constraints of marriage and parenthood on women's opportunities to form ties outside the family and the neighbourhood. Implicit in this reasoning is that relationships in later life are the continuation of patterns established at earlier ages.

Parental status differences in network composition

Research has consistently shown that children provide high levels of support to their elderly parents (Connidis, 1989; Shanas, 1979; Stoller & Earl, 1983; Wenger, 1984). It is often suggested that at advanced ages, the absence of children works as a disadvantage. This viewpoint is questionable because it disregards the availability of alternative sources of support. Those who have always been childless are likely to have followed strategies during the course of their lives aimed at securing the support to fit their needs: in their housing decisions (the kinds of facilities in the residence, the distance from services), by making financial provisions or by seeking substitutes in other relationships. Of interest in the present chapter is the extent to which there is evidence that the childless have found *compensation* (Cantor, 1979; Hess, 1972) through

increased involvement in other relationships. Do we find that the childless, in comparison to those with children alive, have higher proportions of siblings, 'other' kin, friends, neighbours and 'other' non-kin in their networks?

Age differences in network composition

Given the cross-sectional nature of the data, one should of course be cautious about inferring changes that occur with increasing age. Age differences can only suggest differences that take place with advancing years. Nevertheless, a number of processes can be identified which are likely to result in a *reshuffling* of social ties. These processes point us in the direction of the kinds of differences in network composition we should be looking for. Here we are returning to the four criteria described earlier: kin versus non-kin, intra-versus intergenerational relationships, emotional closeness, and geographic proximity.

As people age, they increasingly become 'survivors', that is, they outlive age peers. The world they come to inhabit is a world of strangers (Dowd, 1986), a world consisting of people who have grown up in different time periods, with different outlooks on life. Do we find a decline in intragenerational ties such as those with friends and siblings across successive age categories? Moreover, is there any evidence of an increase in intergenerational contacts to compensate for such losses?

With advancing age, people are also increasingly likely to experience declines in functional capacities, making it difficult to engage in mutually rewarding social interactions. The continuation of voluntary relationships such as those with friends and acquaintances depends more heavily upon reciprocal exchanges than does that of acquired relationships such as those with family members (Allan, 1989). Presumably, voluntary relationships are more vulnerable to dissolution as the members of the dyad become elderly than are acquired relationships. Do we find, with increasing age, a decrease in the number of more voluntary ties and an increase in the number of kin? People who are emotionally closest to one another are likely to engage in the greatest efforts to maintain their relationship under increasing restrictions, such as those that often come with advancing age (Jerrome, 1990). Do we find, with increasing age, that the closest relationships are the least likely to be dissolved? Finally, at older ages, the location of social interactions is likely

to become different: fewer activities outdoors and in other people's homes, and more in the older adults' residences. With the declining physical mobility that tends to accompany old age, it becomes more and more essential to have social ties in the immediate vicinity (Adams, 1985-1986; Litwak, 1989). Is there evidence in our data that neighbours become increasingly important?

Design of the study

Respondents

In 1992, face-to-face interviews were conducted with 4494 respondents. They constituted a stratified random sample of men and women born in the years 1903 to 1937. The random sample was taken from the registers of 11 municipalities: the city of Amsterdam and two rural communities in the west, one city and two rural communities in the south, and one city and four rural communities in the east of the Netherlands. The response was 61.7 per cent. The data were collected by 88 interviewers.

The average age of the respondents was 72.8. Most were living in their own homes: 1298 (28.9%) were not married and lived alone, 2582 (57.5%) lived with a partner, and 206 (4.6%) lived in another kind of multi-person household. Finally, 351 (7.8%) lived in an institution of some sort, such as a nursing home, a home for the aged, psychiatric hospital, or shelter for the homeless.

The present analyses are based on network data from 4059 respondents; 591 have no children, and 3468 have at least one surviving child. The large majority (92.5%) of those without living children have always been childless. The analyses explicitly consider the differential availability of offspring. Where relevant, they are performed separately for older adults with and those without children alive. Furthermore, the analyses control for the possibly contaminating influences of partner status. Partner status refers to the presence or absence of a cohabitant (either married or unmarried).

Relationship type

The network delineation procedure which was adopted in the NESTOR-LSN survey was described in Chapter 5. Briefly, the procedure was the following. For each of seven domains (household members, children and their partners,

other family members, neighbours, work- and school-related contacts, members of organizations, and 'others', e.g. friends and acquaintances), the respondents were requested to provide the names of those who were 'important' to them and with whom contact was 'regular'. Note that friends were identified as members of a 'residual' category. Relationships entered that category *only if* they had not been nominated in the preceding categories of household members, children and their partners, other family members, neighbours, work- and school-related contacts, and members of organizations. In our view this is a correct procedure to follow, given the wide variability in people's definitions of friendship (Adams, 1989; Blieszner & Adams, 1992). Nevertheless, one should be aware that relationships with friendship qualities can also be present in preceding categories.

For the purposes of the present analyses, the 29 relationship types described in Chapter 5 were reduced to eight: children, children-in-law, siblings, siblings-in-law, 'other' kin, friends, neighbours and 'other' non-kin. The number of eight was more or less arbitrary. Apart from the substantive criteria of kin versus non-kin, intra- versus intergenerational relationships, emotional closeness and geographic proximity, relationships were grouped together on the basis of simple numbers. If relatively few relationships of a particular type were nominated, they were subsumed under a larger category. Parents are an example; their number was too small to warrant the use of a separate category. They were assigned to the category 'other' kin. Partner relationships were excluded from the analyses, to ensure comparability in network size between those with and those without a partner.

In what follows, the adopted eight-type categorization is elaborated, and where relevant, substantiated with information from the 'top-twelve' relationships. The 'top-twelve' were the twelve (or fewer if fewer had been nominated) network members with whom contact was most frequent, and it was for this selection that questions about supportive exchanges and questions about relationship duration were asked.

Kin versus non-kin. As described earlier, the distinction between kin and non-kin is roughly a distinction between 'acquired' and 'voluntary' relationships. Of course, colleagues and neighbours are also achieved relationships. Most of the colleagues nominated by the respondents were *former* colleagues, and thus it is more appropriate to view them as voluntary relationships. Neighbours are considered separately, given the importance of geographic proximity in old age.

Intra- versus intergenerational. Relationships defined as intragenerational were: siblings, siblings-in-law and friends. Intergenerational relationships were: children, children-in-law, 'other' kin, 'neighbours', and 'other' non-kin. Inspection of the non-kin relationships among the 'top-twelve' revealed that 69% of the relationships with friends were age-homogeneous, meaning that there was no more than a ten year age difference between the members of the dyad. Of the non-kin relationships other than friends, 51% were age-homogeneous. For siblings, the proportion was 72%.

Emotional supportiveness. As described earlier, among kin relationships, children were assumed to be closer than siblings, and blood ties were assumed to be closer than in-laws. Among non-kin relationships, friends were assumed to be closer than both neighbours and 'other' kin. Findings on supportive exchanges substantiated these a priori distinctions. 'Top-twelve' relationships in order of decreasing mean emotional support received were: children, friends, siblings, siblings-in-law, children-in-law, 'other' kin, 'other' non-kin, and neighbours. For mean emotional support given, the relationships in order of decreasing supportiveness were: children, friends, children-in-law, siblings, siblings-in-law, 'other' non-kin, 'other' kin, and 'neighbours'.

Geographic proximity. Household members were not included in the category of neighbours. If a household member happened to be a sibling, for example, s/he was assigned to that category. Network members living in the neighbourhood, who were nominated in the domains of children, other family members, work- and school-related contacts, members of organizations, or 'others', were not assigned to the category of neighbours either. Analyses of the 'top-twelve' relationships (household members excluded) indicated that 19% of kin and 27% of non-kin (other than those nominated as neighbours) lived in the neighbourhood. Living in the neighbourhood was defined as living within a five-minute travelling distance.

Comparability of networks

Despite the common criterion of 'regular' contact, there is considerable variability among network members in the frequency of contact. To ensure a higher degree of comparability across networks, the analysis was restricted to relationships with a minimum contact frequency, namely at least monthly contact. There is a .92 correlation between the original measure of network size and the one corrected for relationships with a minimum of monthly

contact (see Van Tilburg in Chapter 5). As mentioned earlier, partner relationships were also excluded from the analyses, as a means to ensure comparability in network size between those with and those without a partner. The analyses in this chapter are based on the 42,580 network members (of 4059 respondents) who remained after excluding the relationships with less than monthly contact and the partner relationships.

Results

Gender differences

First, gender differences in network composition are considered. A bivariate comparison reveals that men's and women's networks do not differ in terms of the proportions of kin; they are 62.7% and 63.0%, respectively ($t_{(4057)} = -.4$). A multivariate analysis controlling for partner status and parental status differences also shows no gender differences ($F_{(4049,1)} = .6$): 63.0% for men and 63.1% for women. To what extent are gender differences observed in the numbers of relationships of a particular type in the networks? The findings from multivariate analyses controlling for differences in partner status and parental status are presented in *Table 6.1*. Men nominate as many children as do women, and as many children-in-law. Men nominate fewer siblings, a similar number of siblings-in-law, and fewer 'other' kin. Finally, men nominate fewer friends, but a similar number of neighbours, and of 'other' non-kin.

Parental status differences

Next, differences in the networks of those with and those without children are described (controlling for partner status and gender differences). Not surprisingly, the childless have lower proportions of kin in their networks than do those with children alive ($F_{(4049,1)} = 423.7$, $p < .001$). The proportions are 42.3% and 67.1%, respectively.

On average, the childless have smaller networks than those with at least one child alive ($F_{(4049,1)} = 113.4$, $p < .001$). The means are 8.0 and 10.9, respectively. Of interest is to what extent the size difference is attributable to the availability of offspring. When the relationships with children and their partners are excluded as network members, no differences in network size

Table 6.1. Mean number of different types of relationships nominated by men and women as network members (means controlled for partner and parental status differences)

	Men	Women	$F_{(4049,1)}$
children	2.2	2.3	1.0
children-in-law	1.3	1.4	.8
siblings	.7	1.0	51.5*
siblings-in-law	.9	1.0	2.9
'other' kin	.8	1.1	26.1*
friends	.8	1.2	37.9*
neighbours	1.5	1.6	.6
'other' non-kin	1.6	1.5	2.6

* $p < .001$.

remain between the childless and those with living children: the means are 7.1 and 7.3 for the two groups ($F_{(4049,1)} = 0.9$, $p > .05$). In other words, if one bases network size on the number of relationships other than those with children and children-in-law, the networks of the childless and those with children are approximately equally large.

A closer look at the types of relationships composing the networks reveals the following. On average, the childless nominated a larger number of siblings ($F_{(4049,1)} = 11.4$, $p < .01$), a smaller number of siblings-in-law ($F_{(4049,1)} = 490.8$, $p < .001$), and a larger number of 'other' kin ($F_{(4049,1)} = 27.3$, $p < .001$) than did those with children. Furthermore, the childless nominated approximately equally large numbers of friends ($F_{(4049,1)} = 4.2$, $p > .01$), neighbours ($F_{(4049,1)} = 1.5$, $p > .10$), and 'other' non-kin ($F_{(4049,1)} = 3.1$, $p > .05$).

Age differences

First we look at age differences in the proportion of kin in the network. Multivariate analyses controlling for gender and partner status differences show a linear increase with age in the proportion of kin in the network for those with children ($F_{(3455,6)} = 2.7$, $p > .01$), and no age differences for the

childless ($F_{(580,6)} = 0.6, p > .10$). Among elderly parents, the proportions increase from 60% for the 55-59 year olds to 70% for the 85-89 year olds. Among the childless, the proportions show no deviations from 42%.

Next, age differences in the numbers of different types of relationships composing the networks of the childless and those of older adults with at least one child alive are examined. Again the findings are controlled for gender and partner status differences. The results are shown in *Figure 6.2*. Among elderly parents, the number of children remains relatively stable across the groups distinguished according to increasing age ($F_{(3455,6)} = 2.7, p > .01$). Age differences in the number of children-in-law in the networks of elderly parents are significant, but they do not follow a linear pattern ($F_{(3455,6)} = 7.8, p < .001$); the youngest and the oldest nominate the smallest number of those relationships. Across the distinguished age categories, one sees a reduction in the number of siblings ($F_{(3455,6)} = 22.8, p < .001$ for those with children, and $F_{(580,6)} = 5.5, p < .001$ for the childless), and a reduction in the number of siblings-in-law ($F_{(3455,6)} = 24.3, p < .001$ for those with children, and $F_{(580,6)} = 3.2, p < .01$ for the childless). A decline with age is not observed for the number of 'other' kin. Rather, among those with children there is a curvilinear association with age ($F_{(3455,6)} = 7.1, p < .001$). The youngest and the oldest nominate the largest numbers of 'other' kin. No differences with age are observed for the number of 'other' kin among the childless ($F_{(580,6)} = 1.6, p > .10$).

The following age differences are found for the numbers of non-kin relationships in the networks. Among both those with children and those without, the number of friends shows a decline across successive age categories ($F_{(3455,6)} = 13.6, p < .01$ for those with children, and $F_{(580,6)} = 3.4, p < .01$ for the childless). Whereas among those with children the number of neighbours decreases with age ($F_{(3455,6)} = 3.4, p < .01$), it remains relatively stable among the childless ($F_{(580,6)} = 1.9, p > .05$). Finally, for both those with children and those without, there is a linear decrease with age in the number of 'other' non-kin in the network ($F_{(3461,6)} = 23.0, p < .001$ and $F_{(580,6)} = 7.8, p < .001$, respectively).

Conclusion

The chapter started with an analysis of gender differences in network composition. If one looks only at the overall proportions of kin in the

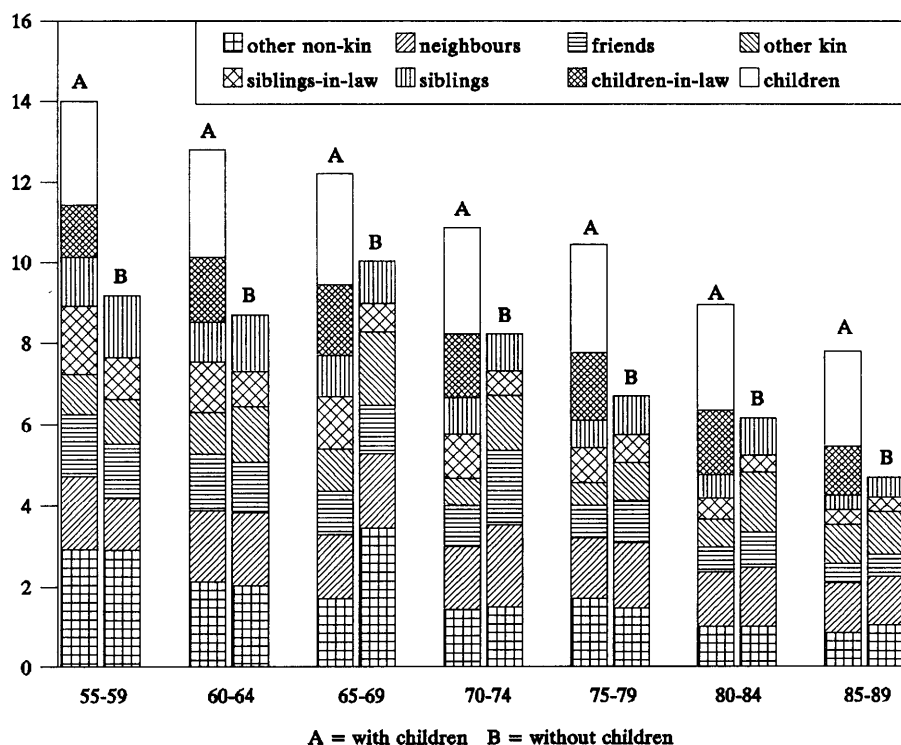


Figure 6.2. Types of relationships composing the networks of older adults with and without children alive

networks of men and women, no differences are found. However, a closer look at the types of relationships represented in their networks does reveal dissimilarities: women nominate larger numbers of siblings, 'other' kin and friends.

The findings provide only partial support for a structural perspective on gender differences in networks. That siblings and 'other' kin are more prominent in women's networks than in men's, is consistent with the notion that women are more focused on kin as the result of their activities associated with marriage and parenthood. It is also additional evidence for women's function as 'kin-keepers' (Wellman, 1985). Contrary to expectations, women do not have higher proportions of neighbours in their networks. A greater involvement in neighbourhood ties was expected, given that women's activities tend to be more home-bound than men's. Also contrary to expectations is the

finding that men's networks do not show a relatively high number of 'other' non-kin. In other words, their networks provide no evidence for gender-related differences in areas of recruitment of relationships. Men's greater involvement in paid employment and in voluntary associations is not reflected in a higher number of contacts with 'other' non-kin.

In this chapter, a structural perspective was used to point at differences in recruiting grounds for relationships. Another way of using a structural perspective is to draw attention to the availability of peers (Blau, 1961; Moore, 1990; Van der Poel, 1993). This can help understand the finding that women have relatively more friends in their networks. Friendships tend to be homogeneous in terms of the age and sex of the relationship partners (Blieszner & Adams, 1989). In old age, men are at a structural disadvantage in terms of their opportunities for friendship. They outnumber women in the older population, and for that reason, have a smaller pool of contacts eligible for friendship. In other words, our finding of a lower number of friends in men's networks may be attributable to the under-representation of men in the older population. However, the gender difference can also be explained from a dispositional perspective. Presumably, the higher number of friends among women reflects their greater sociability.

The second part of the analyses focused on differences between the childless and older adults with at least one living child. Little evidence was found for the notion that the childless constitute a group at risk. For all types of relationships, with the exception of siblings-in-law, they have similar or higher levels of social involvement. The smaller number of siblings-in-law in their networks probably reflects the fact that fewer of these relationships exist. A large proportion of the childless have never married, and for that reason have fewer in-laws. The findings indicate that relatively many alternative sources of support are available to the childless. They also suggest that in the course of their lives, the childless have had the opportunities and the motivation to find substitutes. Nevertheless, the findings also show the childless fail to achieve 'full' compensation, which would be the case if their networks were the same size as those of parents. If one excludes children and children-in-law from the measure of network size, the networks of the childless and those with children are approximately equally large. The present analysis shows there is no compensation in the total *number* of network members. At present we do not yet know whether the network members perform different functions. Other studies have indicated that the friends,

neighbours, and family members of the childless may be particularly supportive (Jerrome, 1990; Johnson & Catalano, 1981).

Age differences formed the third focus of this chapter. Age differences in network composition are the outcomes of several different processes. For that reason, there is no straightforward interpretation for the previously described results. Nevertheless, a number of general patterns can be identified in the data. In doing so, we will return to the four criteria described above: kin versus non-kin, intra- versus intergenerational relationships, emotional closeness and geographic proximity.

First, among the childless there are no indications that with increasing age, the proportion of kin in the network increases. However, among elderly parents, the data show that with increasing age, their networks become more uniformly composed of kin. A better understanding of these age-related changes can be obtained by looking at the types of relationships in their networks. While decreases are found for siblings and siblings-in-law, and the number of 'other' kin shows little variation, the mean number of children remains relatively stable. The number of children-in-law shows a curvilinear association with age: the youngest and the oldest parents nominated the smallest numbers. This finding may reflect differential availability with age of children-in-law. The youngest may be least likely to have these relationships because fewer of their children have reached an age where they are involved in partner relationships. The oldest may likely have few of these relationships due to outsurvival.

Given the general decline in network size, the relative importance of children increases: they occupy a larger proportion of the total number of ties. In other words, among elderly parents there does not appear to be an increase in the proportion of kin generally, but rather an increase in the importance of children in particular. We do not know what the meaning of this greater importance of children is. Is it brought forth by choice or necessity? As yet this remains an open question, one which cannot be answered without looking at the actual exchanges taking place in parent-child relationships.

Second, it is obvious that the decline in network size is largely attributable to the loss of intragenerational relationships: friends, siblings and siblings-in-law. In other words, the decline in network size with increasing age is, at least in part, attributable to the loss of age peers. Again we do not know what exactly accounts for this loss. Have the respondents outlived their age peers?

Or is there a process of (mutual) withdrawal, for example because interaction is socially uncomfortable or physically too difficult to realize?

Third, at this level of generality, there is no indication that the closest types of relationships are most likely to survive. We do not see a sharper decline for siblings-in-law compared to siblings. Neither do we see a decline in children-in-law compared to children. Among those with children we see a stronger decline for 'other' non-kin than for friends, but that pattern is not observed among the childless.

Fourth, an interesting difference according to parental status emerges with regard to the presence of neighbours in the network. Among those with children, their number decreases with advancing age, but it remains stable among the childless. Given the loss of other types of relationships, the relative importance of neighbours increases in the networks of the childless. Not only is there a decrease in the number of friends in their networks, but there is also a reduction in 'other' non-kin, presumably as the result of decreasing involvement in voluntary organizations and community life. Clearly, neighbourhood contacts serve a special function for this group of older adults. With advancing years they appear to become more strongly dependent upon contacts in the immediate vicinity.

References

- Adams, R.G. (1985-1986). Emotional closeness and physical distance between friends: Implications for elderly women living in age-segregated and age-integrated settings. *International Journal of Aging and Human Development*, 22, 55-76.
- Adams, R.G. (1989). Conceptual and methodological issues in studying friendship. In R.G. Adams & R. Blieszner (Eds.), *Older adult friendship* (pp. 17-41). London: Sage.
- Allan, G. (1979). *A sociology of friendship and kinship*. London: Allen & Unwin.
- Allan, G. (1989). *Friendship: Developing a sociological perspective*. London: Harvester: Wheatsheaf.
- Antonucci, T.C. (1990). Social supports and social relationships. In R.H. Binstock & L.K. George (Eds.), *The handbook of aging and the social sciences* (3rd ed., pp. 205-226). Orlando, FL: Academic.

- Blau, Z.S. (1961). Structural constraints on friendship in old age. *American Sociological Review*, 26, 429-439.
- Blieszner, R. & Adams, R. (1992). *Adult friendship*. London: Sage.
- Broese van Groenou, M.I. (1991). *Gescheiden netwerken: De relaties met vrienden en verwanten na echtscheiding* [Separated networks: Relationships with friends and relatives after marital separation]. Dissertation, Rijksuniversiteit Utrecht.
- Cantor, M. (1979). Neighbours and friends: An overlooked resource in the informal support system. *Research on Aging*, 1, 434-463.
- Connidis, I. (1989). *Family ties and aging*. Toronto: Butterworths.
- Dowd, J.J. (1986). The old person as stranger. In V.W. Marshall (Ed.), *Later life: The social psychology of aging*. (pp. 147-189). Beverly Hills: Sage.
- Dykstra, P.A. (1990a). *Next of (non)kin: The importance of primary relationships for older adults' well-being*. Amsterdam: Swets & Zeitlinger.
- Dykstra, P.A. (1990b). Disentangling direct and indirect gender effects on the supportive network. In C.P.M. Knipscheer & T.C. Antonucci (Eds.), *Social network research: Methodological questions and substantive issues* (pp. 55-65). Amsterdam: Swets & Zeitlinger.
- Dykstra, P.A. (1993). The differential availability of relationships and the provision and effectiveness of support to older adults. *Journal of Social and Personal Relationships*, 10, 355-370.
- Fischer, C.S. (1982). What do we mean by 'friend'? An inductive study. *Social Network*, 3, 287-306.
- Fischer, C.S. & Oliker, S.J. (1983). A research note on friendship, gender and the life cycle. *Social Forces*, 62, 124-133.
- Hammer, M. (1983). 'Core' and 'extended' social networks in relation to health and illness. *Social Science and Medicine*, 17, 405-411.
- Hess, B.B. (1972). Friendship. In M.W. Riley, M. Johnson & A. Foner (Eds.), *Aging and society. Volume three: A sociology of age stratification* (pp. 357-393). New York: Russell Sage.
- Jerrrome, D. (1990). Frailty and friendship. *Journal of Cross-Cultural Gerontology*, 5, 51-64.
- Johnson, C.L. & Catalano, D.J. (1981). Childless elderly and their family supports. *The Gerontologist*, 21, 610-617.
- Knipscheer, C.P.M. (1980). *Oude mensen en hun sociale omgeving: Een studie van het primaire sociale netwerk* [Elderly and their social environment: A study of the primary social network]. Den Haag: VUGA.

- Litwak, E. & Szelenyi, I. (1969). Primary group structures and their functions: Kin, neighbours and friends. *American Sociological Review*, 34, 465-472.
- Litwak, E. (1989). Forms of friendships among older people in an industrial society. In R.G. Adams & R. Blieszner (Eds.), *Older adult friendship* (pp. 65-88). London: Sage.
- Lopata, H.Z. (1979). *Women as widows: Support systems*. New York: Elsevier.
- Marsden, P. (1987). Core discussion networks of Americans. *American Sociological Review*, 52, 122-131.
- Milardo, R., Johnson, M., & Huston, T. (1983). Developing close relationships: Changing patterns of interaction between pair members and social networks. *Journal of Personality and Social Psychology*, 44, 964-976.
- Moore, G. (1990). Structural determinants of men's and women's personal networks. *American Sociological Review*, 55, 726-735.
- Poel, M. van der (1993). *Personal networks: A rational-choice explanation of their size and composition*. Amsterdam: Swets & Zeitlinger.
- Shanas, E. (1979). The family as a social support system in old age. *The Gerontologist*, 19, 169-174.
- Stevens, N.L. (1989). *Well-being in widowhood: A question of balance*. Dissertation, Katholieke Universiteit Nijmegen.
- Stoller, E.P. & Earl, L.L. (1983). Help with activities of everyday life: Sources of support of the non-institutionalized elderly. *The Gerontologist*, 22, 526-531.
- Thijssen, L. (1983). Sociale relaties en eenzaamheid bij ouderen [Social relationships and loneliness among older adults]. *Mens en Maatschappij*, 64, 291-303.
- Wellman, B. (1985). Domestic work, paid work and net work. In S.W. Duck & D. Perlman (Eds.), *Understanding personal relationships* (pp. 159-191). London: Sage.
- Wellman, B. & Wortley, S. (1984). Brothers' keepers: Situating kinship relations in broader networks of social support. *Sociological Perspectives*, 32, 273-306.
- Wenger, G.C. (1984). *The supportive network: Coping with old age*. London: Allen & Unwin.

THE PROXIMATE NETWORK

Marjolein Broese van Groenou

The personal network occupies an important place in the lives of elderly people. Regular interactions with network members (e.g. children, relatives, neighbours, friends, and fellow members of organizations) enhance the feeling of being socially integrated and decrease feelings of loneliness. A significant aspect of network relations concerns the exchange of various types of support. The intensity of support is dependent, among other things, on the geographical distance between the network members (Wellman & Wortley, 1990). In particular, socializing (e.g. exchange of visits, going out together) and the exchange of instrumental support (e.g. helping with daily household chores) are more likely to take place when network members live within proximity.

Given the higher incidence of health problems, widowhood, transportation restrictions, and financial problems in old age, the demands placed on network members living within the proximity increase. Research has shown that the personal networks of the elderly are often strongly based within the local community and vary with respect to the proximity of kin (Wenger, 1990). It appears that the availability of kin (children, grandchildren) at close geographical distances decreases with age (Antonucci & Akiyama, 1987; Litwak, 1985). Elderly with adult children living nearby are in an advantageous position, since children are known to respond promptly to the increased need for instrumental support of their parents (Cicerelli, 1984; Dwyer & Coward, 1991; Hanson & Sauer, 1985; Horowitz, 1985; Matthews & Rosner, 1988). For elderly who have no children or whose children do not live nearby, neighbours and friends who live geographically close become important sources of support (Cantor, 1979; Wenger, 1984). Usually, neighbours and friends are regarded as helpers in the second degree (Peters & Kaiser, 1985). They provide support in domestic activities, such as shopping and light chores, rather than personal care and hygiene (Stoller &

Earl, 1983). In addition, they look after the older adult in situations when immediate emotional and practical aid is required.

The previous chapter on the composition of personal networks revealed that children (if available), as well as neighbours, form a major and relatively stable part of the personal network of the eldest persons. In addition, we know that the children of the elderly in our sample do not always live close to their parents (Chapter 3). These findings call for a closer look at the network members who *do* live within the immediate vicinity of the elderly. Taking the importance of proximity in relation to the provision of various types of support, this chapter will highlight the *proximate* network of older adults. At first, the size and composition of proximate networks will be described for elderly, by sex, age, living arrangement, and parental status. Secondly, the support potential of the proximate network members is examined by taking a closer look at their living conditions. Distinctions are made between the elderly with and without a proximate network with support potential.

Design of the study

Respondents

In 1992, face-to-face interviews were conducted with 4494 respondents. They constituted a stratified random sample of men and women born in the years 1903 to 1937. The random sample was taken from the registers of 11 municipalities: the city of Amsterdam and two rural communities in the west, one city and two rural communities in the south, and one city and four rural communities in the east of the Netherlands. The response was 61.7 per cent. The data were collected by 88 interviewers.

The average age of the respondents was 72.8. Most were living in their own homes: 1298 (28.9%) were not married and lived alone, 2582 (57.5%) lived with a partner, and 206 (4.6%) lived in another kind of multi-person household. Finally, 351 (7.8%) lived in an institution of some sort, such as a nursing home, a home for the aged, psychiatric hospital, or shelter for the homeless.

Definition of the proximate network

The proximate network is defined as the network of members who live outside the household but within 15 minutes travelling time from the adult. The criteria of 15 minutes is arbitrary and based on the assumption that it includes persons living within the *immediate* neighbourhood. This assumption ignores the fact that geographical distance differs with the degree of urbanization of the neighbourhood; persons living in a large city can meet a large number of neighbourhood members within 15 minutes travelling time, whereas the elderly living in a small village in a rural area will meet few persons within the same travelling time. The criteria of 15 minutes also excludes persons who, for example, live 20 or 30 minutes away, but are very determined to come over and assist their older network member. Yet, although it is realized that a rather selective part of the network is being examined, every other definition of the proximate network would have been arbitrary as well.

Chapter 5 described the method used for the delineation of the larger personal network. Of all identified network members, a maximum of 12 with the highest contact frequency was selected by the computer. This concerns 37715 network members. For these network members, information was gathered on travelling time. The respondent was asked to indicate in hours and minutes how long it took to travel to the network member by means of usual transport. Answers were recoded to minutes. For 816 network members, the data on travelling time are missing. The remaining 36899 network members belong to 4029 respondents. 359 respondents had no network members living within 15 minutes of their homes.

The analyses for this chapter were based on the 3670 respondents who had at least one and up to 12 network members living within 15 minutes travelling time from their home. To examine the selectivity bias of this subsample, we compared the 3670 respondents with the 359 respondents who had named no network members within a proximity of 15 minutes. The two groups differ with respect to sex, age, parental status, and composition of the household. A relatively large percentage of the 359 respondents with no proximate network members, compared to the 3670 elderly with a proximate network, is male (61% vs 48%, $\chi^2_{(1)} = 21.1$, $p < .01$) and has no living children (21% vs 12%, $\chi^2_{(1)} = 18.6$, $p < .01$). A smaller percentage of the elderly with no proximate network lives alone (25% vs 30%, $\chi^2_{(2)} = 5.9$, $p < .05$). In addition, the first group is on average older than the latter group (means are 74.6 and 71.8 respectively, $t_{(4027)} = 5.0$, $p < .01$). The elderly who have

a proximate network seem to be in a relatively advantaged position, given the availability of children, and a younger age, although the elderly with no proximate network are more likely to share a household. The comparison between the two groups provides a first indication that the size of the proximate network is related to sex, age, parental status, and living arrangement of the older adult.

In particular, older adults who live alone and have no contacts within the immediate neighbourhood may suffer a lack of support in times of need. Fortunately, this concerns a relatively small number of respondents ($n = 91$). The other respondents without a proximate network are either sharing their household with a spouse or others (67%) or are living in an institution (7%). The presence of household members for those who live independently and the presence of co-residents and personal staff for those who live in an institution may have decreased the necessity to maintain a proximate network.

Results

Size and composition of the proximate network

The proximate network is composed of an average of 5.4 persons ($SD = 3.0$, range = 1-12). Not surprisingly, neighbours are most likely to be identified within this network of proximates. The respondents named an average of 1.5 neighbours ($SD = 1.8$, range = 0-12), but 40% of the sample do not consider any neighbours to meet the criteria of 'important' and 'regular contact'. Next, children are most likely to live within the proximate network, on average, 1.0 children filled the criteria of 15 minutes or less travelling time ($SD = 1.2$, range = 0-7). Nearly 57% of the 3670 elderly have at least one child living within this travelling time. Other types of relationships are not as prevalent. In decreasing order, the proximate network is composed of 'other' non-kin ($Mean = 0.9$), children-in-law (0.6), friends (0.4), 'other' kin (0.3), siblings (0.3), and siblings-in-law (0.3). More than 80% of the 3670 elderly have no siblings, siblings-in-law, or 'other' kin living within the immediate neighbourhood. Nearly 77% have no friends living this close and 61% have no 'other' non-kin within this distance. It can be concluded that the proximate network is primarily composed of neighbours and children.

There are few differences between older males and females with respect to their proximate network. There are no differences with respect to size.

Children, children-in-law, siblings, siblings-in-law, and neighbours are present to the same degree in the proximate networks of men and women. The only significant differences found concern the presence of 'other' kin, friends and 'other' non-kin. In comparison with older men, older women have more kin ($t_{(3668)} = 2.96, p < .01$), more friends ($t_{(3668)} = 5.56, p < .01$) and fewer non-kin ($t_{(3668)} = 4.28, p < .01$) living within the same neighbourhood. These results suggest that the participation of older men and women in different social spheres is reflected in that part of the network that is geographically close.

The proximate network in relation to the type of living arrangement

Contacts within proximity are assumed to be more important for elderly who live alone. Elderly who share their household with others or who live in an institution usually have members of the household or other residents available to help them when assistance is required. A comparison of the proximate network is made between the elderly in three types of living arrangements; living alone ($n = 1116, 30\%$), sharing the household with at least one other person ($n = 2366, 65\%$), and living in an institution ($n = 188, 5\%$). The majority of the elderly who share a household live with a partner; smaller numbers of elderly share their household with a spouse and one or more children, or with one or more children only, or with other household members (e.g. parent, sibling, friend, grandchild, housekeeper).

Persons who share their household with others ($n = 2366$) have the largest proximate networks (5.5 persons on average) in comparison with elderly living alone (5.3 on average, $n = 1116$) and with the 188 elderly living in an institution (4.6 persons on average; $F_{(3669,2)} = 6.2, p < .01$). The means are controlled for age and sex differences. Pairwise comparisons revealed that the difference between the proximate network of those sharing their household and those living alone is not statistically significant.

Figure 7.1 shows the composition of the proximate network by the type of living arrangement of the respondent. With respect to the average number of siblings, 'other' kin, and 'other' non-kin, the differences between the three groups (elderly sharing a household, living alone, and institutionalized) are not statistically significant. The relatively small proximate networks of elderly who live in an institution are attributable to relatively small numbers of siblings-in-law ($F_{(3669,2)} = 9.61, p < .01$), neighbours ($F_{(3669,2)} = 8.3$,

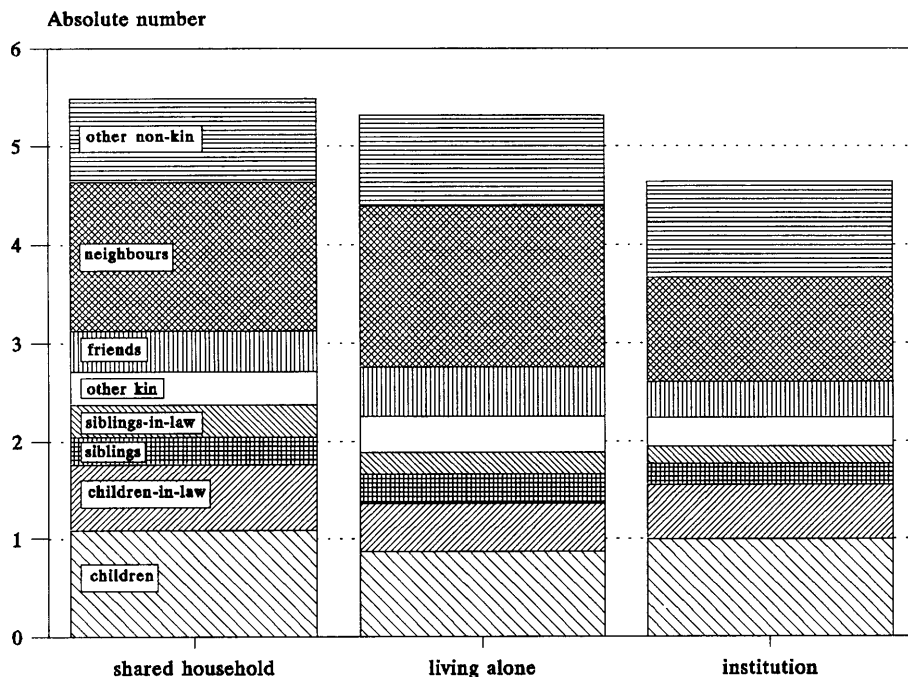


Figure 7.1. Composition of the proximate network by living arrangement ($n = 3670$)
(Data controlled for sex and age differences)

$p < .01$), and friends ($F_{(3669,2)} = 2.9$, $p < .01$). The small numbers of neighbours and friends may be due to limited mobility of the institutionalized or to the fact that they have only recently moved. The institutionalized may also find sufficient opportunities for social interactions within the institution and need not seek contacts within the neighbourhood.

Another interesting finding is that the elderly who live alone have the largest numbers of neighbours and friends living within proximity. This may be related to the low availability of children and children-in-law within their neighbourhood, which, in combination with the absence of household members, may encourage them to develop and maintain contacts with non-kin nearby. The elderly who share their household with a spouse or another person have the most children and children-in-law and siblings-in-law living within proximity. These differences may in part be attributed to the availability of offspring. The next section examines the differences in the proximate network of parents and childless elderly.

A comparison of the proximate networks of parents and childless elderly

The diversity of the network is restricted by the availability of children. Childless elderly may be more reliant upon their proximate contacts than older parents. Comparisons between the childless ($n = 455$) and the parents in the sample ($n = 3212$) show that childless elderly have fewer network members living within 15 minutes in comparison with parents (the means are 5.0 and 5.5 respectively, $F_{(3666,1)} = 9.2, p < .01$). The means are controlled for sex and age differences.

There are large differences between the two groups in the types of relationships composing the proximate network. On average, non-parents nominate a larger number of siblings ($F_{(3666,1)} = 21.3, p < .01$), 'other' kin ($F_{(3666,1)} = 34.8, p < .01$), neighbours ($F_{(3666,1)} = 28.1, p < .01$), friends ($F_{(3666,1)} = 20.55, p < .01$), and 'other' non-kin ($F_{(3666,1)} = 13.6, p < .01$). There are no differences with respect to the mean number of siblings-in-law. The parents have an average of 1.2 children living within 15 minutes and an average of 0.7 children-in-law.

It can be concluded that the childless have smaller proximate networks, but only because they have no children that can be selected in the top 12 of most frequently contacted persons. However, the set limit of twelve network members makes the current findings more difficult to interpret. Are childless elderly more focused on other types of relationships within close distances because they have no children, or do parents interact less with others in the neighbourhood because they do have children? To what degree can these findings be explained by the fact that the limit is set to twelve network members and this limit is likely to include the children among the older parents, leaving less room for other types of relationships? The data do not allow us to answer these questions.

Age differences in the size and composition of the proximate network

In general, the size of the proximate network decreases with age. The youngest age group (55-59) has an average of 5.8 persons living within 15 minutes travelling time and the oldest age group (85-89) has an average of 4.4 network members living within this distance ($F_{(3666,6)} = 14.6, p < .01$). This decrease with age is not statistically significant among the childless elderly ($F_{(454,6)} = 1.6, p > .05$), but is found to be significant among the

respondents with children ($F_{(3211,6)} = 9.5, p < .01$). Means are controlled for differences in sex and partner status.

The question arises which types of relationships are less likely to be present in the proximate networks of the oldest. Beforehand, it can be stated that the exact reason is not clear; persons can move out of the neighbourhood or can become lost for other reasons, such as death or diminishing mutual interests. Regarding the fact that younger people are more geographically mobile due to changes in employment and family status, it can be assumed that children and children-in-law are least likely to be present in the proximate networks of the oldest parents. Relationships with age peers, such as siblings(in-law), neighbours, friends, and 'other' non-kin, are likely to be lost due to death, moving, or to decreasing opportunities to maintain contact by either the network member or the elderly.

Figures 7.2 and 7.3 show the composition of the proximate network by age for the childless and parents, controlling for sex and partner status differences. With respect to the childless, there are few differences in the composition of the proximate network between the age groups. In all age groups, neighbours make up the largest part of the proximate network, followed by 'other' non-kin, friends, and 'other' kin. Siblings and siblings-in-law are least likely to be present in this part of the network. With respect to age differences, the number of kin in the proximate network does not differ significantly between the cohorts. This accounts for siblings ($F_{(446,6)} = 1.1, p > .05$), siblings-in-law ($F_{(446,6)} = 0.3, p > .05$), and 'other' kin ($F_{(446,6)} = 1.1, p > .05$). An interesting result is found with respect to the number of neighbours between the birth cohorts. The youngest as well as the oldest birth cohorts have the smallest number of neighbours in the network, whereas the number of neighbours is larger for the elderly in the age groups in between ($F_{(446,6)} = 3.5, p < .01$). With respect to the number of friends the same curve can be observed for the age groups in the middle ($F_{(446,6)} = 2.4, p < .02$). The number of 'other' non-kin generally decreases with age, but shows no straight linear pattern ($F_{(446,6)} = 2.8, p < .01$).

The proximate networks of older parents (Figure 7.3) mainly consist of neighbours, followed by children, 'other' non-kin, children-in-law, and friends. 'Other' kin, siblings and siblings-in-law are least likely to be present in these networks. Significant differences between the age groups are found for every type of relationship. With respect to children, a curvilinear relationship is found between the number of children in the proximate network and the age

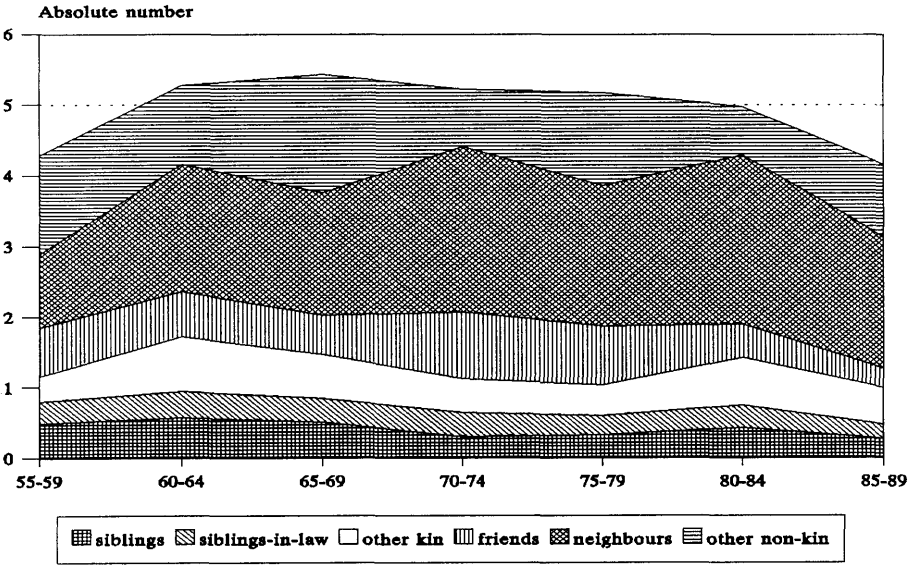


Figure 7.2. Age differences in the composition of the proximate network for respondents with no living children ($n = 455$)

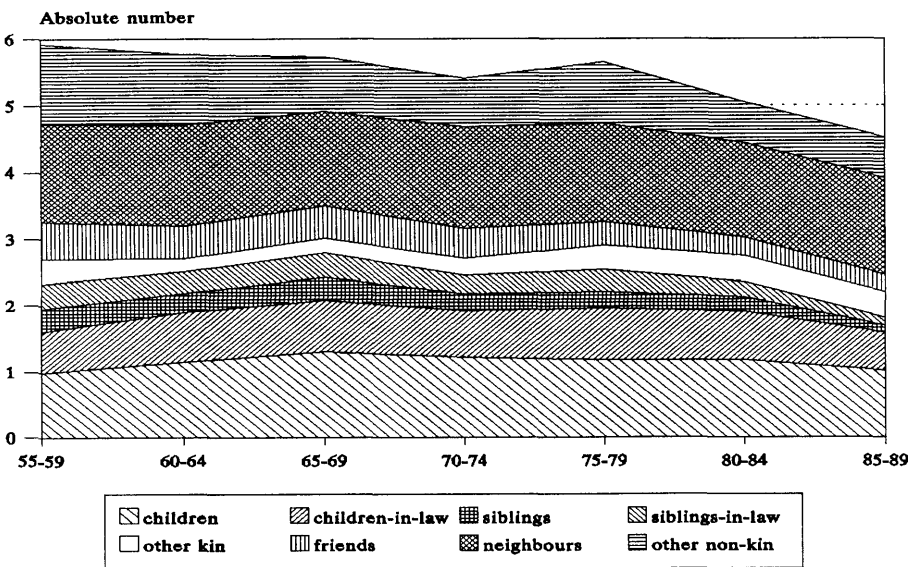


Figure 7.3. Age differences in the composition of the proximate network for respondents with at least one living child ($n = 3212$) (Data controlled for sex and partner status differences)

of the elderly. Both the youngest and the oldest age groups have relatively small numbers of children living in the neighbourhood, whereas the middle age groups have larger numbers of children living close by ($F_{(3203,6)} = 5.8$, $p < .01$). The same pattern is found for the children-in-law ($F_{(3203,6)} = 2.3$, $p < .01$). The small number of children in the neighbourhood of the youngest adults may be explained by the fact that their children are more likely to live within the household. The children of the oldest age groups may have moved further away over the years. It is possible that the elderly in the middle age groups have moved closer to their children.

The numbers of siblings ($F_{(3203,6)} = 5.6$, $p < .01$), siblings-in-law ($F_{(3203,6)} = 6.4$, $p < .01$), friends ($F_{(3203,6)} = 5.6$, $p < .01$), and 'other' non-kin ($F_{(3203,6)} = 9.5$, $p < .01$) seem to decrease more linearly with age. The number of 'other' kin is larger in the youngest and the oldest age groups ($F_{(3203,6)} = 4.7$, $p < .01$). With respect to the number of neighbours, no significant differences are found between the age groups ($F_{(3203,6)} = 0.2$, $p > .05$).

In sum, childless elderly seem to have a network that is strongly located in their neighbourhood, and in which a variety of types of relationships remains present in all age groups. The proximate networks of parents, on the other hand, show a less consistent pattern between the age groups. The findings suggest (in so far indications of changes over time can be derived from cross-sectional data) that in particular children(-in-law) and 'other' kin seem to move in and out of the neighbourhood as one grows older. Whether this 'move' is undertaken by the elderly or by the children or kin remains unclear. Longitudinal analyses will have to show whether age differences in the proximate network are the result of moving or of decreasing capacities to maintain contacts within the neighbourhood.

The support potential of the proximate network

The foregoing described the people in the immediate vicinity of the elderly. The information given about the network members so far was limited to the type of relationship with the older adult. It remains to be seen whether these network members are capable of providing the older person with a significant amount of support at present or in the near future. The next analysis is restricted to the *potential* supportiveness of the proximate network, instead of the actual exchange of support between the network member and the older

person. To this end, we examine the number of network members available to the elderly that, objectively speaking, should be able to become supportive in times of need (whether they are actually willing to do so, is not considered here). The living conditions of the network members within the neighbourhood serve as an indicator of the networks' support potential. It is assumed that the inclination to provide support on a regular basis to an older parent or an older neighbouring friend increases with the amount of 'spare' time available to the network member. It is expected that fewer occupational obligations will leave one more time to support the older adult. Unemployed network members are considered potentially more supportive than members with part-time or full-time jobs.

Secondly, the time spent on spousal and family obligations restricts the support potential of the married network member (Stoller, 1983). However, if the spouse takes over domestic tasks at home, the married network member can provide support more easily (Cicerelli, 1984). One's marital status can thus either restrict or facilitate the support provision. For male network members, in particular sons, being married is considered an advantage since the spouse often helps out with the older adult or parent. We will treat the presence of a spouse as a facilitator in the possible support behaviour toward the older adult.

Another factor influencing the provision of support is the physical condition of the network member. As the available data do not inform us about the health condition of network members, age is used as a proxy. It is assumed that network members below the age of 75 are still in good health and are capable of providing support. Age can also be used as a proxy for the amount of time that is not spent on family (i.e. spouse and children) care and household obligations. It is expected that persons from age 50 and up will have no or few obligations to children and their family which leaves them with relatively more time to support, for example, a neighbour or close living relative. As follows, network members between 50 and 74 years of age are considered to have a relatively higher support potential.

Finally, the support potential is affected by the degree of 'emotional' closeness between the older adult and network member. It is assumed that frequent contact between network members and older adults brings about a certain level of closeness. Depending on the degree of closeness, one will be more or less informed about the personal situation of the older adult and more or less

attentive to increased needs for support. If network members contact older adults at least twice a week, they are considered to be potential supporters.

The number of elderly were calculated who have at least one network member that meets the four criteria for potential support mentioned above. *Table 7.1* shows the number of elderly who have at least one network member living within 15 minutes of travelling distance that satisfies the following criteria: having contact at least twice a week, being between 50 and 74 years of age, being involved in a partner relationship, and being unemployed.

Table 7.1 shows that a large percentage of the 3670 elderly (81 %, $n = 2960$) have at least one network member that lives within 15 minutes travelling time and is also contacted very frequently. Further down the table to the right, one finds that 2441 elderly (82 % of 2960) have at least one network member that is contacted frequently and is also between the age of 50 and 74. Considering the partner status of the network members this leaves 2350 elderly (96 % of 2441) with at least one network member that satisfies all three criteria thus far. Adding the criteria of unemployment of the network members narrows this down to 1903 elderly (81 % of 2350) who have at least one network member that meets all the criteria mentioned above.

The main conclusion from the above is that nearly half of the elderly (47 % of the 4029) have at least one network member living within close distance, whose living situation should enable him or her to provide support to the older adult in times of need. The other half of the sample does not have such a network member living within proximity. With respect to the latter group of elderly, the question arises whether they are more at risk in case of (future) health problems. A closer look at the two groups reveals that the 1903 elderly who have at least one network member with a high support potential differ from the 1763 elderly who do not have such a network member, with respect to age, partner status, and capacity to perform 'Activities of Daily Living' (ADL). The elderly who have at least one potentially supportive network member appear to be less in need of support: they are more likely to have a spouse (68 vs 60 %, $\chi^2(1) = 28.5, p < .01$), are on average younger (70.5 vs 73.2 years of age, $t_{(3668)} = 8.5, p < .01$), and report fewer problems with ADL (18.8 vs 18.5 on a scale of 4 to 20, $t_{(3664)} = 3.1, p < .01$).

From the results emerges a somewhat worrying picture: the elderly who are more in need of support because they are older, lack a spouse, and experience more health problems are less likely to receive this support due to the lower

Table 7.1. Breakdown of the sample by the availability of one or more network members meeting criteria for geographical closeness, contact frequency, age, partner status, and employment status

Total sample	Geographical distance	Frequency of contact	Age	Partner status	Employment status
$n = 4029$	0 nwm ≤ 15 min $n = 359$				
	1+ nwm ≤ 15 min $n = 3670$	0 nwm ≤ 2 x contact per week $n = 710$			
		1+ nwm ≤ 2 x contact per week $n = 2960$	0 nwm between 50-74 yrs. of age $n = 507$		
			1+ nwm between 50-74 yrs. of age $n = 2441$	0 nwm with partner $n = 87$	
				1+ nwm with partner $n = 2350$	0 nwm without job $n = 447$
					1+ nwm without job $n = 1903$

nwm = network member.

support potential of their proximate network. In combination with the other findings in this chapter, it can be concluded that with the decline of important personal resources (age, health status, the presence of a partner), the proximate network also decreases in size as well as in support potential. Changes in the resources of the elderly as well as the resources of the network member may affect the support process in the near future. In due time, the 1903 elderly of the present sample may have increased their need for help and may have actually called upon their network for help. At present, their proximate network seems able to provide support, but longitudinal data will have to point out whether these elderly will actually receive help from their proximate network.

Conclusion

Given the importance of geographic proximity for various types of support, this chapter examined the size and composition of the proximate network. The results indicate that the large majority of the elderly are involved in relationships within the neighbourhood. Only a small number of respondents have neither network members living within the home, nor within the immediate neighbourhood. The composition of the proximate network differs with the type of living arrangement and with the parental status of the elderly. The proximate networks of the childless are remarkably comparable for the distinguished age groups, indicating that their social involvements in the neighbourhood do not depend upon age. The proximate networks of the parents show stronger age differences. Given the cross-sectional nature of the data, it is unclear what patterns of residential mobility underlie the findings.

Efforts have been made to reveal the support potential of the proximate network by looking more closely at the living conditions of the network members. The results indicate that almost half of the elderly have at least one network member living nearby who meets all the basic requirements for being a potential supporter. The question whether these network members will actually provide support in the future can only be answered when longitudinal data become available.

References

- Antonucci, T.C., & Akiyama, H. (1987). Social networks in adult life and a preliminary examination of the convoy model. *Journal of Gerontology*, 42(5), 519-527.
- Cantor, M.H. (1979). Neighbors and friends. *Research on Aging*, 1, 434-463.
- Cicerelli, V.G. 1984. Marital disruption and adult children's perception of their siblings help to elderly parents. *Family Relations*, 33, 613-621.
- Dwyer, J.W., & Coward, R.T. (1991). A multivariate comparison of the involvement of adult sons versus daughters in the care of impaired parents. *Journal of Gerontology*, 46 (5), S259-269.
- Hanson, S.M., & Sauer, W.J. (1985). Children and their elderly parents. In W.J. Sauer & R.T. Coward (Eds.), *Social support networks and the care of the elderly* (pp. 41-65). New York: Springer.
- Horowitz, A. 1985. Sons and daughters as caregivers to older parents: Differences in role performance and consequences. *The Gerontologist*, 25, 612-617.
- Litwak, E. (1985). *Helping the elderly: The complementary roles of informal networks and formal systems*. New York: Guilford.
- Matthews, S.H., & Rosner, T.T. (1988). Shared filial responsibility: The family as the primary caregiver. *Journal of Marriage and the Family*, 50, 185-195.
- Peters, G.R., & Kaiser, M.A. (1985). The role of friends and neighbors in providing social support. In W.J. Sauer & R.T. Coward (Eds.), *Social support networks and the care of the elderly* (pp. 123-158). New York: Springer.
- Stoller, E.P. (1983). Parental caregiving by adult children. *Journal of Marriage and the Family*, 45, 851-858.
- Stoller, E.P., & Earl, L.L. (1983). Help with activities of everyday life: Sources of support for the noninstitutionalized elderly. *The Gerontologist*, 23, 64-70.
- Wellman, B., & Wortley, S. (1990). Different strokes from different folks: Community ties and social support. *American Journal of Sociology*, 96(3), 558-588.
- Wenger, G.C. (1984). *The supportive network: Coping with old age*. London: Allen & Unwin.
- Wenger, G.C. (1990). Change and adaptation in informal support networks of elderly people in Wales 1979-1987. *Journal of Aging Studies*, 4(4), 375-389.

FLOW OF SUPPORT

Theo van Tilburg, Marjolein Broese van Groenou, and Fleur Thomése

The idea that personal relationships are important to people, particularly for their well-being (House & Kahn, 1985), is generally acknowledged. In itself, the very fact that individuals have personal relationships is significant, since it indicates that they are part of a wider social network. This gives a certain meaning to life. In addition to the structural aspect of being embedded in a social network, the function of relationships is important. This chapter will consider the supportive content of the relationships, as these remain significant throughout the life course (Schulz & Rau, 1985). We view support as the exchange of positive aspects within personal relationships. In one way or another, everyone has certain needs that can be met by supportive transactions and interactions. In supportive transactions, material goods can be transferred or help can be provided. We call this instrumental support. Supportive interactions include conversations in which one person shows understanding for the other person's situation. We call this emotional support. Besides instrumental and emotional support, other types of support can be distinguished, like financial and informational support. These types of support may be very significant in relationships of older adults (e.g. elderly give substantial amounts of financial support to their children, and in the case of illnesses, informational support about the nature and the consequences of illness is often very important). However, we confine ourselves to instrumental and emotional support, because these are most important (Veiel, 1985) and because restrictions in the data collection forced us to ask a limited number of questions.

For a number of years, research has shown that a confidant, such as a partner or a friend, is important for receiving support. However, it is unlikely that one relationship can completely meet all the needs of an individual in all circumstances (Dykstra, 1990; Thoits, 1982; Wilcox, 1981). Therefore,

attention is paid to the support within a wider range of relationships. It is assumed that relationships other than with the confidant can fulfil specific functions (Litwak & Szelenyi, 1969) or add to the supportive functions within one relationship (Cantor, 1979; Van Tilburg, 1990). Although these insights have already been developed more than a decade ago, only a few representative studies have been conducted into supportiveness within a broader range of relationships of the elderly. Therefore, one of the goals of this chapter is to present descriptive data about the support received and given by elderly.

In recent years, growing attention has been devoted to the giving of support and to the balance or reciprocity between giving and receiving support. The outcome of giving and receiving support can be placed on a continuum of reciprocity, with in the middle an equilibrium between the support that is given and the support that is received over a certain period of time (Gouldner, 1960); at the ends of the continuum are situations where giving support outweighs the receiving or vice versa.

Attention for reciprocity is frequently specifically focused on older people and, more precisely, on their balance between giving and receiving *instrumental* support. The general hypothesis is that older people often have more need to receive support, particularly instrumental support, and that they have fewer opportunities to give instrumental support than younger people. The most important reason for this hypothesis is that as one becomes older, one's physical capacities often become limited. In such a situation the need for instrumental support is relatively large, while the possibility to give instrumental support is small because for many types of giving instrumental support physical efforts are required. This is why the relationships of the elderly are often out of balance (Depner & Ingersoll-Dayton, 1988) and elderly are viewed as being dependent and passive (Dowd, 1984). Balance is disrupted in situations where the older adult continues to provide the same amounts of support while network members increase their support provision or unchanged amounts of support are provided by a larger number of network members. Balance is also disrupted in situations where the older adult decreases his/her support provision to network members or provides unchanged amounts of support to a smaller number of network members. Of course, a combination of these changes is also possible. Our main interest in this chapter is the differences among the elderly in the total or *network* support that is given and received, and not differences on the relationship level. However, we start with theoretical notions on the level of individual relationships.

From exchange theories (e.g. Blau, 1964; Homans, 1961), it can be concluded that both people in a relationship will try to preserve the support equilibrium. Relationships in which either too much or too little support is given run the risk of being terminated. If one person gives too much support, s/he can start to feel dependent because s/he is investing more and is dependent on the other person to restore the reciprocity. If a person gives too little support, he can start to feel that s/he is taking advantage of the other person, and the other person may feel exploited. This unsatisfactory situation can either be terminated by the support receiver by giving more support or by no longer making use of the support offered, or by the other person in the relationship, the support giver, by providing less support. When the giving of support decreases, there is a chance that the relationship itself will end as well. This can be prevented by introducing or preserving the equilibrium between giving and receiving support in personal relationships. However, imbalanced relationships are not simply terminated, especially not by the elderly (Roberto, 1989; Van Tilburg, 1992a). As noted above, explanations for instrumental reciprocity deficits, whereby relatively large amounts of support are received by one person in the relationship (i.e. the older adult) can be sought in the individual structural situation of the elderly. It might entail a relatively greater need for instrumental support due to poor health or an old-age-related inadequate capacity to give instrumental support to that person (Morgan, Schuster, & Butler, 1991).

No clear hypotheses are available on the course of *emotional* support. It is implausible that structural or situational factors like poor health play a role in emotional reciprocity. Morgan *et al.* (1991) state that emotional exchanges depend more heavily on interpersonal factors, while instrumental exchanges depend more heavily on the resource capacities of the elderly.

To summarize, our propositions are that

- a balance between giving and receiving support is favourable,
- elderly are sometimes in a situation in which they require substantial amounts of instrumental support and/or in which they are not able to give instrumental support.

We suggest that, in a situation where one cannot give enough instrumental support to compensate for the received instrumental support, one might give more emotional support, thus putting the total situation back into balance.

This chapter will first deal with how much instrumental and emotional support the elderly give and receive. Then we address the question of whether there are differences between men and women and among people with different living arrangements. Differences between men and women are often observed, and are explained from the perspective of different socialization processes. Women are brought up with more emphasis on emotional support, and men with more emphasis on instrumental support. Living arrangements are important because, on average, people with a partner have a larger relational network (see Chapter 5), and potentially more support can be mobilized in a larger network. Of course the presence of the partner is a factor in this connection, for in itself the partner relationship is potentially an extremely supportive relationship. Via their partner, people can also easily come into contact with other people, like the partner's relatives, co-workers, acquaintances from organizations, and the partner's friends, who are all potential support-givers.

We then go on to test the hypothesis that the oldest receive more and give less instrumental support than the youngest. Age differences are used as a preliminary indication of life span differences ('change'). We also see whether there are differences in the emotional support that elderly people of various ages give and receive. The question is examined whether poor health and a higher age can explain the lack of equilibrium between giving and receiving instrumental support. Then we focus on whether there are any indications that this imbalance is partially compensated for in the field of emotional support. Elderly people who obtain more than 'their share' of instrumental support could thus give more than their share of emotional support to the members of their networks. Does this occur and, if so, does it occur in a specific category of elderly people?

Design of the Study

Respondents

In 1992, face-to-face interviews were conducted with 4494 respondents. They constituted a stratified random sample of men and women born in the years 1903 to 1937. The random sample was taken from the registers of 11 municipalities: the city of Amsterdam and two rural communities in the west, one city and two rural communities in the south, and one city and four rural

communities in the east of the Netherlands. The response was 61.7%. The data were collected by 88 interviewers.

The average age of the respondents was 72.8. Most were living in their own homes: 1298 (28.9%) were not married and lived alone, 2582 (57.5%) lived with a partner, and 206 (4.6%) lived in another kind of multi-person household. Finally, 351 (7.8%) lived in an institution of some sort, such as a nursing home, a home for the aged, psychiatric hospital, or shelter for the homeless.

In this chapter, we confined ourselves to the 4059 respondents (1985 men and 2074 women) who provided information about their social network.

Questionnaire

The networks of persons with whom the respondents maintained a significant and frequent relationship were stipulated by using a procedure based upon Cochran *et al.* (1990). The following seven categories were distinguished: people who live in the same household, children and children-in-law, other relatives, neighbours, people with whom one is working or studying, contacts in organizations (co-members), and other contacts (e.g. friends and acquaintances). In each of these categories, the respondents were asked to name people above the age of eighteen who were important to them and with whom they were in touch regularly. The size of the network was determined by the number of people who were named in the seven categories.

Questions about giving and receiving instrumental and emotional support were posed about a maximum of twelve of the relationships. These were the relationships with the highest contact frequency, whereby people who lived in the same household were assumed to have daily contact. If there were twelve or fewer persons in the entire network, the support questions were posed about all the relationships. For each of the twelve or fewer relationships, the following four questions about support were posed:

- (1) 'How often did it occur in the past year that X told you about his or her personal experiences and feelings?' (emotional support given),
- (2) 'How often did it occur in the past year that you told X about your personal experiences and feelings?' (emotional support received),

- (3) 'How often did it occur in the past year that X helped you with daily chores in and around the house, such as preparing meals, cleaning the house, transportation, small repairs, or filling in forms?' (instrumental support received), and
- (4) 'How often did it occur in the past year that you helped X with daily chores in and around the house, such as preparing meals, cleaning the house, transportation, small repairs, or filling in forms?' (instrumental support given).

The four answers to choose from were: 'never', 'seldom', 'sometimes', and 'often'. The sequence of these questions was determined by chance and differed from one respondent to the next.

As regards health, three instruments were used. The first instrument contained four questions about experiencing difficulties with the following personal activities of daily life (ADL): 'Can you walk up and down stairs, ... walk for five minutes outdoors without resting, ... get up from and sit down in a chair, ... dress and undress yourself (including putting on shoes, doing up zippers, fastening buttons)?'. The five answers to choose from were: 'not at all', 'only with help', 'with a great deal of difficulty', 'with some difficulty', and 'without difficulty'. The four ADL items formed a hierarchically homogeneous scale ($H = .68$) which was reliable ($\rho = .87$). The scale ranged from four (numerous problems) to twenty (no problems). Four questions were posed about problems with instrumental activities of daily life (IADL), i.e. preparing hot meals, changing the sheets on the bed, doing the laundry, and cleaning the house. The scale was hierarchically homogeneous ($H = .64$) and reliable ($\rho = .87$). The scale ranged from four (numerous problems) to twenty (no problems). All institutionalized respondents were assigned the score of four. ADL differed from IADL in that ADL involves personal care activities that cannot be taken over by other persons, and IADL involves activities that can. There was a strong correlation between the occurrence of problems in the two fields ($r = .50$). The third instrument pertained to a question about the respondents' perception of their own health: 'How is your health in general?' Answers could be given on a five-point scale. Subjective health correlated with ADL ($r = .43$) and with IADL ($r = .26$).

Procedure

Computing support intensity

The frequency of support in the 'top-twelve' (or fewer, if fewer available) relationships was scored on a scale from never to often, with values one to four. To create a picture of the (total) support exchanged in the network, we excluded the partner relationships. To obtain comparable figures for respondents with and without a partner, we counted the support within 11 (or fewer) relationships other than with a partner. Finding the sum of this frequency of support for each respondent's 11 or fewer relationships enabled us to assess the intensity of instrumental and emotional support given and received by the respondent. Each of these four *total support* scales ranged from zero (no relationships in the network) to 44 (at least 11 relationships in the network, whereby a maximum of support was given and received in all of the 11 relationships with the highest frequency of contact). This procedure leads to an underestimation of the support intensity in the case of respondents who nominated more than eleven relationships other than with a partner. Nevertheless, it provides a realistic picture of the support in the network, as has been demonstrated in earlier work (Van Tilburg, 1990). Since there were sometimes fewer than eleven relationships in the entire network, a correlation can be anticipated between the size of the network and the intensity of the support score. Therefore, in some analyses we present the *mean support* score across the available relationships, with values 0 (relationships on average never supportive) to 3 (relationships on average often supportive); a zero is assigned to respondents without network members other than the partner.

Computing reciprocity

The degree of support reciprocity in each relationship was calculated as the difference between the frequency of support given and support received. In this chapter, we take the point of view of the elderly respondent in the relationship and compute (positive, negative, or zero) scores on the reciprocity scale. A positive score means that more support was given by the older adult than received, a score of zero means that there was a balance between the two, and a negative score means that more support was received by the older adult than given. The reciprocity scores of the relationships were summed to obtain a reciprocity score for the network. The data on exchanges in the

relationships were solely reported by the elderly respondents themselves, and not by the other members of their networks. This is referred to as a subjective measurement of reciprocity or measurement of perceived reciprocity (Van Tilburg, 1992b), in contrast to an inter-subjective measurement based upon data from both persons in the relationship.

Multi-variate analyses

In order to assess differences in the intensity of instrumental and emotional support given and received, we calculated averages for men and women, elderly people in various living arrangements, and elderly people in seven age groups. For the multivariate analysis, we applied ANOVA.

In order to explain the differentiation of reciprocity among the respondents, we carried out two regression analyses. In the first analysis, instrumental reciprocity was the variable to be explained and emotional reciprocity an explanatory variable, and in the second analysis we explained variations in emotional reciprocity on the basis of variations in instrumental reciprocity. In both of these analyses, sex, the presence or absence of a partner relationship, age, network size, subjective health, ADL, and IADL were included in the regression model as explanatory variables.

If we observe a negative correlation between instrumental and emotional reciprocity in the networks of the elderly, it is an indication that we were right to assume that an imbalance in the instrumental support exchange in the form of receiving too much support can be compensated for by giving higher amounts of emotional support. This negative correlation can also reflect a causal relation in the opposite direction. A negative correlation is also attributable to the existence of a category of respondents who gave a relatively large amount of instrumental support and received a relatively large amount of emotional support. From the perspective of the exchange theory, it is not impossible for a person who gave relatively little emotional support to restore the balance by giving more instrumental support. Analogous to our hypothesis, it is even probable that the other party in an imbalanced relationship of this kind is the one who, for example due to health problems, is not capable of maintaining instrumental reciprocity and is trying to restore the total balance by giving more emotional support. In order to investigate this point, it is necessary to examine in detail the circumstances of the various members of the elderly respondents' networks, which lies outside the scope

of this study (a sub-project of the NESTOR-LSN program, however, focuses upon this type of examination).

If a negative correlation is observed between instrumental and emotional reciprocity, the next step is to identify a category of respondents who received a relatively large amount of instrumental support and who gave a relatively large amount of emotional support. One way of doing this is by developing a typology of reciprocity using a cluster analysis. We arbitrarily decided to distinguish five clusters, and hoped to find the desired category of respondents as one of the clusters. Using logistic regression analysis, we then examined whether the features of the respondents in this cluster deviated from those in the other clusters.

Results

Differences in intensity of support

In the elderly respondents' relationships, more emotional support was exchanged than instrumental support. On the scale of support intensity within the network with a theoretical range from 0 to 44, the average intensity of given and received instrumental support was about 14, and of emotional support approximately 21. The men gave somewhat more instrumental support (on average, they received 14.4 and gave 13.9, as compared to 14.4 and 12.3 for the women; $t_{(4030)} = .8, p > .05$, and $t_{(3808.5)} = 6.4, p < .001$ respectively), whereas the women received and gave more emotional support (on average, they received 22.2 and gave 21.7, as compared to 20.3 and 19.3 for the men; $t_{(4020)} = -5.3, p < .001$ and $t_{(4018)} = -7.1, p < .001$ respectively). The average intensity of instrumental and emotional support given and received in the networks of men and women is shown in *Figure 8.1*.

Table 8.1 shows differences in total support according to the older adults' living arrangements. The following general pattern emerges. Total support was highest for those living with a partner (and others). Next are the elderly who do not have a partner in their household and live with their children or with others. The ones who lived alone followed, whereas the institutionalized respondents exhibited by far the lowest intensity of supportive exchanges. (The category of elderly people with other living arrangements, consisting of married elderly who are living separated from their spouse and elderly living in a psychiatric hospital or a shelter for the homeless, is not discussed

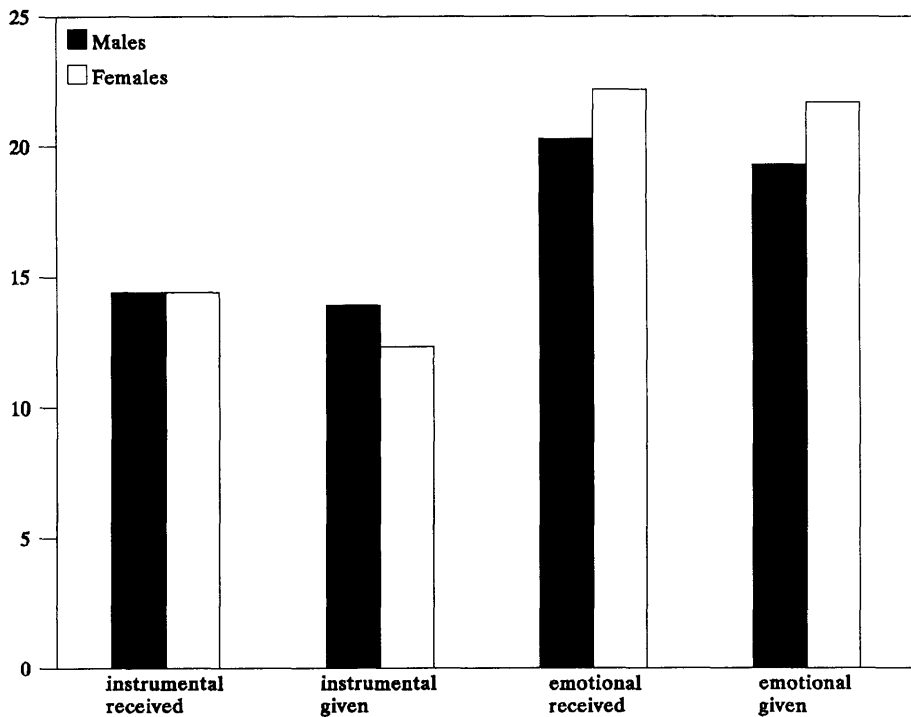


Figure 8.1. Total instrumental and emotional support received and given by male and female elderly

Table 8.1. Total instrumental and emotional support received and given according to living arrangements of the elderly

	N	instrumental		emotional	
		received	given	received	given
with partner (and others)	2406	14.4	14.6	22.5	21.2
alone, never married	140	12.1	10.3	18.7	18.0
alone, divorced	131	11.8	11.3	20.9	19.6
alone, widowed	901	15.0	10.8	19.9	20.3
multi-person without partner	180	16.8	14.0	21.7	21.4
institutionalized	208	12.3	7.3	15.0	15.2
	$F_{(3960,5)}$	12.7	69.1	23.6	13.3

here.) This general picture was observed for both receiving and giving support, and for both instrumental and emotional support, with one exception. The widows and widowers received more instrumental support than the other respondents who lived alone. As the F-values in Table 8.1. show, the largest differences were found for instrumental support received.

Total support also clearly varied with age. The 501 oldest respondents (above the age of 85) had the fewest exchanges, and the 528 youngest ones (below the age of 60) had the most. This pertained to instrumental as well as emotional support, and to giving as well as receiving support. However, when we cancel out the effect of network size, which was correlated with total support, and look at the mean support within the individual relationships of the elderly, a different picture emerges. (To repeat a point made earlier, the relationships with a spouse or partner are excluded from these analyses.) *Figure 8.2* shows the mean support within the individual relationships, on a scale with a theoretical range from 0 to 3, for respondents of different birth cohorts. The relationships of the oldest showed higher instrumental support received than the relationships of the youngest-old ($F_{(4005,6)} = 7.7, p < .001$),

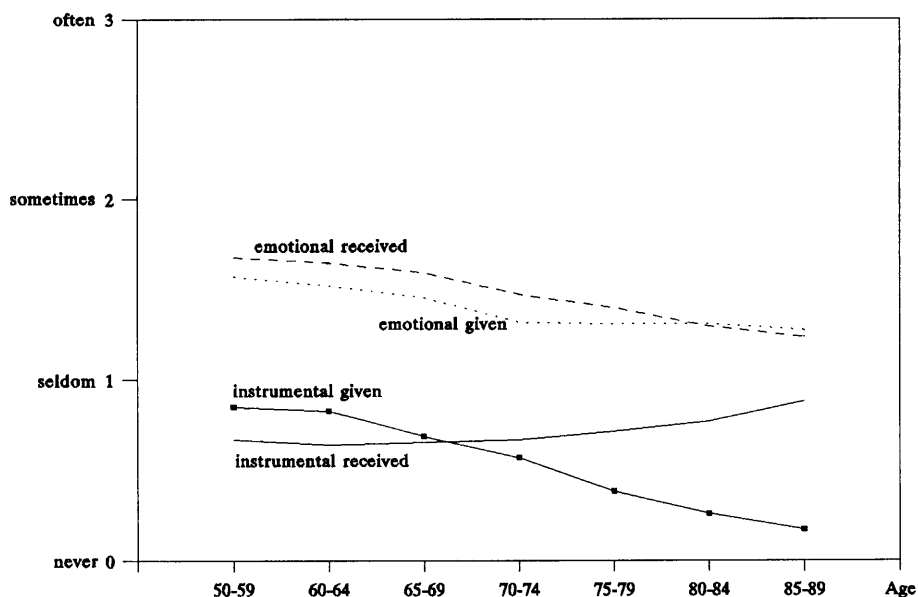


Figure 8.2. Mean support (range 0 to 3) within individual relationships (excluding the partner and the spouse) by age of the respondent

while the reverse was true for instrumental support given ($F_{(4005,6)} = 105.9$, $p < .001$) and emotional support received ($F_{(4005,6)} = 22.0$, $p < .001$) and given ($F_{(4005,6)} = 9.8$, $p < .001$). For the association between age and instrumental support received, two tendencies exist. First, there is an increase with age in the mean instrumental support received, calculated for the relationships separately. Second, the number of relationships decreased with age. The first does not compensate for the second, and the two effects combined result in a decrease in instrumental support received from the network. For instrumental support given to, emotional support received from and given to the network, the decrease is the result of a shrinking network, as well as a decrease in support within the relationships.

A multivariate analysis of the intensity of total support (not controlled for network size) indicated the importance of sex, age, and living arrangements. The significance of the differences between men and women was negligible, while the differences based on living arrangements and age were highly significant. For the rest, the explained variance was low, i.e. between two and eight per cent, but with one exception. Differences in sex, living arrangements, and age explained 18% of the variance in the intensity of instrumental support that was given.

Figure 8.3. shows the total support exchanged by respondents of different ages controlling for sex and living arrangements. The graph makes it clear that the intensity of supportive exchanges decreased virtually linearly with increasing age. The decrease was most marked in the case of instrumental support given (a drop of 9.0 on a scale with a range from 0 to 44 and a mean of 13.0). The decrease in the intensity of emotional support given was approximately the same as the decrease in emotional support received (both had a drop of about 8 on scales with a range from 0 to 44 and a mean of about 21). There was a relatively small decrease in the intensity of instrumental support received (2.3 on a scale with a range from 0 to 44 and a mean of 14.4).

Given that total support depends on network size, we performed additional analyses to find out to what extent a decline in network size accounted for the observed decrease in support. In these analyses, which are not reported in detail here, network size was introduced as the covariate. The results indicate that the decrease in instrumental support received was not significant when network size was controlled for, while the decreases in instrumental support given and in emotional support given and received were.

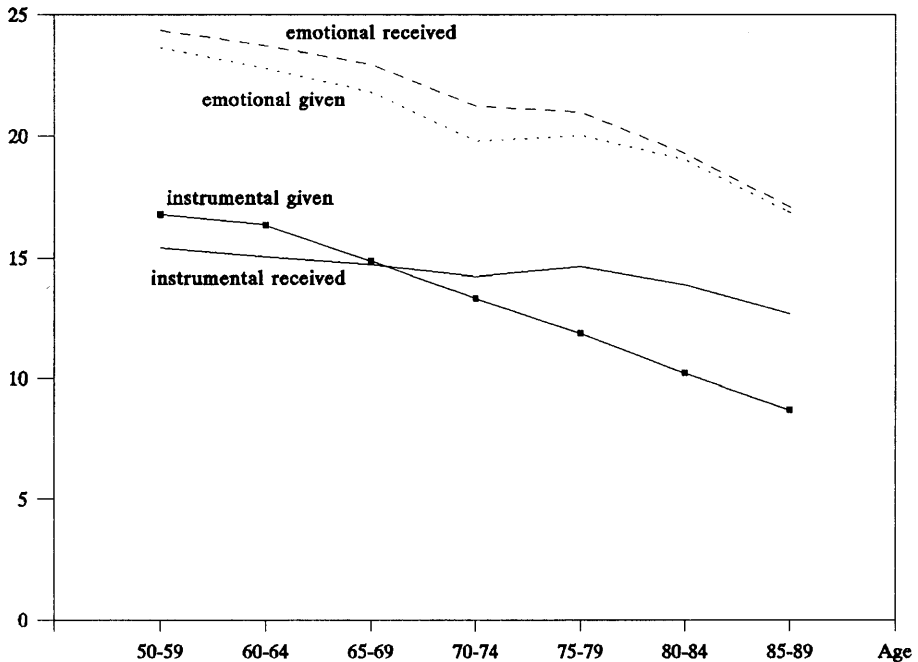


Figure 8.3. Total support by age of the respondent, controlled for sex and living arrangement

The data presented in this chapter do not give information about the need for support from the social network. For example, the institutionalized elderly received the least instrumental support. Presumably, they receive much instrumental support from professionals. However, the data presented here suggest that elderly in those private living arrangements who probably have the highest needs for support, like the oldest living alone, actually receive the least.

Differentiation in reciprocity

Figure 8.3 shows that, on average, the intensity of giving and receiving support does not differ strongly. For emotional support in particular, the lines in the graph run virtually parallel. Figure 8.3. also indicates that the youngest respondents tend to provide more instrumental support than they receive, while the opposite is observed for the oldest. These findings are in contrast to those of earlier studies (Morgan *et al.*, 1991, Rook, 1987) which reported

overbenefitting by the elderly, that is, the elderly gave more than they received.

Figure 8.4 uses the same data as *Figure 8.3*, but the presentation is different. It plots the differences between support given and support received, that is, the degree of reciprocity. Furthermore, it uses a different vertical scale (with a range of -5 to 2 rather than 0-25). The figure shows that emotional support reciprocity was the same for the elderly respondents of different ages, but instrumental reciprocity decreased approximately linearly with increasing age. The decrease began around the age of 64. The turning point, where a relative surplus of instrumental support given changed into a relative deficit, was at approximately the age of 66. Although a decrease in reciprocity of about five points on a scale from -44 to 44 seems to be minor, it is obvious from the data presented earlier in this chapter that this loss of five points is mainly attributable to a drop in the instrumental support given by the oldest elderly to about half of the support given by the youngest elderly.

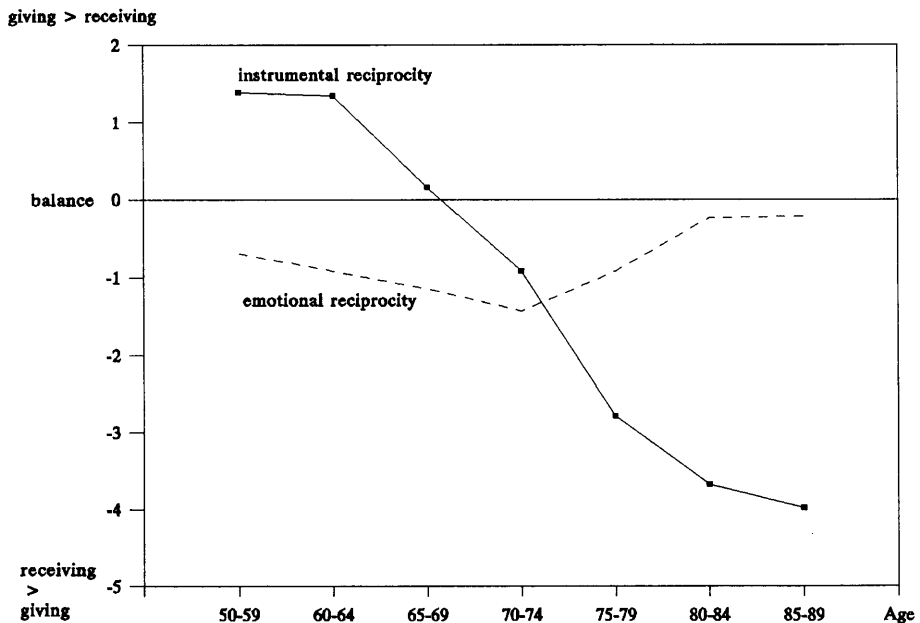


Figure 8.4. Instrumental and emotional reciprocity by age, controlled for sex and living arrangement

Table 8.2. Regression of instrumental and emotional reciprocity

	instrumental		emotional	
	β	p	β	p
male-female	-.10	.000	.01	.78
age	-.24	.000	-.00	.98
living with partner*	.10	.001	-.05	.14
living alone*	-.03	.32	.01	.72
institutionalized*	.07	.000	.01	.73
subjective health	.11	.000	.01	.61
ADL	.09	.002	.01	.54
IADL	.13	.000	.02	.35
network size	-.06	.000	-.08	.000
emotional/instrumental reciprocity	-.11	.000	-.14	.000
adjusted R ²	20.5		3.0	

* dummy variables with living in a multi-person household as the reference category.

Approximately 20% of the variations in instrumental reciprocity were explained by differences in subjective health, age, living arrangements, sex, and emotional reciprocity (*Table 8.2*). Respondents who had problems with the activities of daily life (ADL and IADL) and those who reported having poor health were indeed greater users of instrumental support than providers. IADL and subjective health (regression coefficients β .13 and .11) were more important than ADL (β = .09). Age remained important, even after controls for subjective health, ADL, and IADL: the oldest respondents gave a relatively small amount of instrumental support. The fact that female respondents gave a relatively small amount of instrumental support has been discussed above. Variations in instrumental reciprocity were also variations in emotional reciprocity: respondents who received relatively large amounts of instrumental support gave relatively more emotional support. The size of the network also played a role: instrumental reciprocity was somewhat lower for elderly people with large networks than for those with small networks. Differences in living arrangements, controlled for the other factors, were still significant: respondents with a partner and the institutionalized gave relatively more instrumental support, whereas respondents who lived alone gave approximately as much instrumental support as they received. That institutionalized elderly are overbenefitting their personal network members with instrumental support can be easily explained, since they receive a great deal of care at the

institution, and do not need much instrumental support from their own personal networks.

Differences in emotional reciprocity were poorly explained. The factors introduced into the regression analysis accounted for only three per cent of the variance. What is more, differences in instrumental reciprocity were by far the most important. Elderly respondents who gave a relatively large amount of instrumental support thus also gave relatively little emotional support. Respondents with a large network also gave a relatively small amount of emotional support. The significance of the other factors was small and probably coincidental.

In order to more closely examine the link between instrumental and emotional reciprocity, and more specifically to identify a category of respondents who received relatively much instrumental support and gave relatively much emotional support, we developed a typology of support reciprocity. Cluster analysis was used to distinguish clusters of respondents with approximately the same values or contrasting values on instrumental and emotional reciprocity. The two variables for instrumental and emotional reciprocity contributed significantly to the division into five clusters. The results of the cluster analysis are shown in *Figure 8.5*.

Let us start our description of the results of this analysis with the third cluster, which was characterized by a balance in instrumental as well as emotional support. This cluster included half of the elderly respondents and exhibited a good cross-section of the random sample: there were no differences in sex, subjective health, or ADL ($p > .05$) between the elderly respondents in this third cluster and the other respondents, and the third cluster included somewhat fewer elderly people with partners (with an odds ratio of .74) and widowed elderly (ratio .82), and more unmarried elderly living alone (ratio 1.74) ($p < .001$), more older respondents ($p < .001$, ratio 1.02), and fewer respondents with IADL-problems ($p < .05$, ratio 1.02). We used sex, living arrangements, age, subjective health, ADL, and IADL of the respondents in the third cluster as a standard for describing the other four clusters (see *Table 8.3*), and only reported differences significant at the .01 level.

The first cluster contained respondents characterized by a lack of instrumental and emotional reciprocity: they received more of both kinds of support than they gave. However, the lack of instrumental reciprocity was much greater than the lack of emotional reciprocity. The differences between them and the

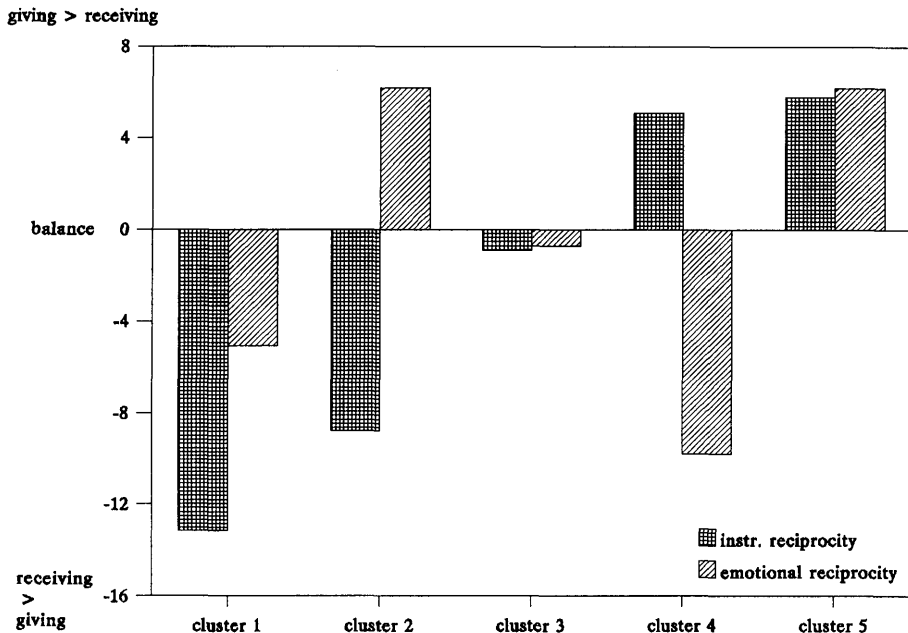


Figure 8.5. Typology of instrumental and emotional reciprocity

Table 8.3. Logistic regression on respondents in cluster 3 ($n = 1916$) (value 0) and clusters 1, 2, 4, and 5 respectively (value 1)

	cluster 1 $n = 369$		cluster 2 $n = 535$		cluster 4 $n = 590$		cluster 5 $n = 562$	
	p	odd	p	odd	p	odd	p	odd
male-female	.001	1.58	.008	1.37	.02	.77	.01	.75
age (54-89)	.000	1.03	.003	1.02	.000	.96	.000	.95
living arrangement	.000		.001		.000		.001	
- with partner (and others)	.21	1.19	.76	1.04	.000	2.16	.000	1.58
- alone, unmarried	.02	.40	.50	.85	.52	.82	.02	.48
- alone, divorced	.74	1.10	.03	.47	.28	1.35	.43	.80
- alone, widowed	.01	1.47	.001	1.57	.77	.94	.87	1.03
- multi-person (no partner)	.75	1.08	.04	1.51	.88	.96	.55	1.15
- institutionalized	.001	.42	.28	.80	.12	1.72	.92	1.04
subjective health (1,5)	.000	.76	.10	.90	.35	1.06	.44	1.06
ADL-capacity (4,20)	.43	.98	.42	.98	.008	1.10	.001	1.15
IADL-capacity (4,20)	.000	.94	.000	.95	.18	1.02	.10	1.02

elderly in the third cluster were that there are more females in the first cluster (the odd ratio indicates that there are 1.58 times the number of female respondents in the third cluster than is expected by chance), that they were older, that they are more often widowed and are institutionalized, their health was viewed as poorer, and they reported more IADL problems. The second cluster contained respondents who received more instrumental support than they gave and gave more emotional support than they received. The respondents in this cluster were more often female and tended to be older than the respondents in the third cluster, more often widowed, and reported more IADL problems. The fourth cluster contained respondents who gave a relatively large amount of instrumental support and gave relatively very little emotional support. The younger respondents with partners and with a good ADL-capacity were relatively widely represented in this cluster. The fifth cluster contained respondents who gave more instrumental and emotional support than they received. They were more often men and younger than the respondents in the third cluster, they more often had a partner, and they reported fewer ADL-problems.

Conclusion

The data make it clear that men and women are differently involved in the exchange of support. On the supply as well as the demand side, men are more active in the exchange of instrumental support, whereas women exhibit a higher intensity of emotional support exchanges. The differences are consistent, but not very sizeable. In other words, there are also many men who are highly involved in emotional exchanges and many women who are highly involved in instrumental exchanges.

If we draw a distinction based on living arrangements, we see that respondents living with a partner have more relationships and more support exchanges than those who live alone. This difference is probably even greater than the reported data suggest, since the support in partner relationships was not taken into consideration. Institutionalized respondents have the fewest supportive exchanges with their personal network members. Further distinctions can be drawn as regards the respondents who live alone: widows and widowers exchange more support than respondents who have never been married or have divorced. Widows and widowers also differ from the others in the relation between giving and receiving support: compared with the other respondents, widows and widowers exhibit many non-reciprocal relationships,

in most of which they receive large amounts of instrumental support. This can mean that the instrumental support which is lost with the death of their partners is compensated for by support in other relationships (Dykstra, 1990). It might be true of the single and divorced respondents that in the course of their lives, they develop the kind of skills that enable them to manage with less instrumental support.

Age plays an important role in giving and receiving support. The older one is, the fewer relationships one has and the more limited the intensity of exchanges within the network. However, there is less of a decrease in the amount of instrumental support one receives from the network than in the other three forms of support exchange; the difference is more striking when we view the amount of instrumental support one receives within the separate relationships, which increases somewhat. In other words, older respondents receive more instrumental support from fewer network members, and the older receive less emotional support from fewer network members than the younger respondents. This only partly confirms the findings of Antonucci and Akiyama (1987), who report that older persons receive more *varied* support from fewer network members than younger persons. Our results are very similar to those of Morgan *et al.* (1991). They find that both support receiving and support giving decrease across age categories, and that this decline is larger for support giving. However, there are also differences between the findings of Morgan *et al.* and ours. One very striking difference is that the networks in the study by Morgan *et al.* are strongly overbenefitted by the elderly (they give more than they receive), while in our study the exchanges between the elderly and their networks are generally characterized by balance. They find a turning point, where overbenefitting changes into under-benefitting, at the age of 85+, while in our study this point can be found at approximately the age of 66.

Morgan *et al.* attribute overbenefitting of the network to the subjective nature of the data in combination with the bias towards more giving (Van Tilburg, 1992c). Even when we take into account that our data show a balance between giving and receiving, it is not sure that our data are not biased. Since in the framework of the current research program data about giving and receiving support are available from both participants within the relationships, we are able to conduct future research into whether the data on giving and receiving are systematically disturbed.

The observed age differences partly confirm the picture of the dependent elderly person: people above the age of 66 are increasingly one-sidedly dependent on receiving instrumental support from other people, without being able to give the same amount of instrumental support in return. In fact, the instrumental support *given* decreases sharply with increasing age. This finding concurs with those of Depner and Ingersoll-Dayton (1988), who specify the effect as mainly connected to the number of and support within relationships with siblings. That age more strongly affects giving instrumental support than receiving is discussed by Morgan *et al.* (1991). They suggest that the decrease in network size indicates a withdrawal from social activity and that this withdrawal is the strongest for demanding activities like support giving. Contrary to this more or less continuous process, support receiving is likely a function of immediate need, such as illnesses. So, although health or physical capacities play a role in changes in both giving and receiving, the impact is different.

However, one has to be cautious when interpreting the age differences as change, because the results presented now are based on cross-sectional data. The longitudinal design of the study gives future possibilities to examine whether the determined age-related differences actually reflect age-related changes.

The elderly's dependence upon instrumental support received from their personal network, which appears to be necessary from about the age of 66, is terminated upon admission to a nursing home or home for the aged, which is approximately the age of 80. However, the age of 66 is not an abrupt turning point; it is a gradual change that sets in earlier. Moreover, growing dependence does not lead to a situation in which the oldest are completely dependent on receiving instrumental support without giving some instrumental support in return. The growing imbalance between giving and receiving instrumental support is related to the changes that can be expected to affect people's health at that age, so that they are no longer able to give as much instrumental support and are apt to need more of it. In our study, the respondents' own assessment of their health and the problems they reported having with the instrumental activities of daily life (IADL) are more important in explaining differences in instrumental reciprocity than their problems with the personal activities of daily life (ADL). Instrumental support in the network of personal relationships is perhaps more functional in the case of IADL problems than ADL problems.

The hypothesis —derived from exchange theories— that efforts are made to compensate for shortcomings in providing instrumental support by giving more emotional support cannot be rejected. We observed a negative association between instrumental and emotional reciprocity. The analyses show that differences in emotional reciprocity cannot be explained by variations in the individual structural situation of the elderly, while differences in instrumental reciprocity can. This may suggest that emotional reciprocity can more or less be controlled or actively influenced by the elderly, possibly in relation to instrumental reciprocity. Furthermore, we find a category of respondents (cluster 2) where transfer among different forms of support takes place. A lack of balance in exchanges of instrumental support, i.e. receiving more than giving, is partly compensated by giving more emotional support than one receives. These respondents have problems with maintaining instrumental reciprocity, e.g. widows in poor health who need a relatively large amount of instrumental support. A similar process can be observed for respondents in cluster one. The exchanges of instrumental support show a stronger disbalance than those of emotional support. The respondents in this category might compensate for receiving too much instrumental support by providing a relative surplus of emotional support.

Other categories of respondents (cluster 4) give relatively little emotional support. Because we think that giving emotional support is not limited by structural circumstances, it is possible that they have problems giving emotional support due to personal characteristics, e.g. the men who were raised in a time that expressing emotions was rare for men. They might possibly compensate for receiving too much emotional support by providing a relative surplus of instrumental support. A third category of respondents (cluster 3) have instrumental and emotional reciprocity. It is possible that they attach greater value to the reciprocity in their networks, because they (e.g. the unmarried and divorced elderly living alone) have more exchange relationships with acquaintances for example, and less communal relationships with a partner, with children, and other kin. As noted above, further longitudinal research is necessary in order to test the hypothesis. Not only can further research test whether the process of exchange between instrumental and emotional support takes place, but also examine in which relationships the intensity of support is altered in this process. As has been theoretically assumed (Clark & Mills, 1979), and as prior research has demonstrated (Van Tilburg, 1993), only a small number of personal relationships can be viewed as relationships in which the balance between giving and receiving support is important. The expectation is that alterations

in the relation between giving and receiving support mainly take place in these exchange relationships.

In this chapter we did not address the question of whether receiving and giving support and the reciprocity of support promote well-being. The next chapter addresses the question whether supportive exchanges generally contribute to a decrease in the likelihood of experiencing loneliness. In the future, we will conduct research into the contribution of particular types of relationships within the network to the instrumental and emotional support received and given, and to the meaning for well-being of reciprocity of support within the network and within particular types of relationships.

Acknowledgement

The study was made possible by a fellowship from the Royal Netherlands Academy of Arts and Sciences (KNAW), awarded to the first author.

References

- Antonucci, T.C., & Akiyama, H. (1987). Social networks in adult life and a preliminary examination of the convoy model. *Journal of Gerontology*, 42, 519-527.
- Blau, P.M. (1964). *Exchange and power in social life*. New York: Wiley.
- Cantor, M.H. (1979). Neighbours and friends: An overlooked resource of the informal support system. *Research on Aging*, 1, 434-463.
- Clark, M.S., & Mills, J. (1979). Interpersonal attraction in exchange and communal relationships. *Journal of Personality and Social Psychology*, 37, 12-24.
- Cochran, M., Lerner, M., Riley, D., Gunnarsson, L., & Henderson, C.R. (1990). *Extending families: The social networks of parents and their children*. Cambridge: University Press.
- Depner, C.E., & Ingersoll-Dayton, B. (1988). Supportive relationships in later life. *Psychology and Aging*, 3, 348-357.
- Dowd, J.J. (1984). Beneficence and the aged. *Journal of Gerontology*, 39, 102-108.
- Dykstra, P.A. (1990). *Next of (non)kin: The importance of primary relationships for older adults' well-being*. Amsterdam: Swets & Zeitlinger.

- Gouldner, A.W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review*, 25, 161-179.
- Homans, G.C. (1961). *Social behavior: Its elementary forms*. New York: Harcourt, Brace & World.
- House, J.S., & Kahn, R.L. (1985). Measures and concepts of social support. In S. Cohen & S.L. Syme (Eds.), *Social support and health* (pp. 83-108). Orlando: Academic.
- Litwak, E., & Szelenyi, I. (1969). Primary groups structures and their functions: Kin, neighbours, and friends. *American Sociological Review*, 34, 465-481.
- Morgan, D.L., Schuster, T.L., & Butler, E.W. (1991). Role reversals in the exchange of social support. *Journal of Gerontology*, 46, 278-287.
- Roberto, K.A. (1989). Exchange and equity in friendships. In R.G. Adams & R. Blieszner (Eds.), *Older adult friendship: Structure and process* (pp. 147-165). London: Sage.
- Rook, K.S. (1987). Reciprocity of social exchange and social satisfaction among older women. *Journal of Personality and Social Psychology*, 52, 145-154.
- Schulz, R., & Rau, M.T. (1985). Social support through the life course. In S. Cohen & S.L. Syme (Eds.), *Social support and health* (pp. 129-149). Orlando: Academic.
- Thoits, P.A. (1982). Conceptual, methodological and theoretical problems in studying social support as a buffer against life stress. *Journal of Health and Social Behavior*, 23, 145-159.
- Tilburg, T.G. van. (1990). The size of the supportive network in association with the degree of loneliness. In C.P.M. Knipscheer & T.C. Antonucci (Eds.), *Social network research: Substantive issues and methodological questions* (pp. 137-150). Amsterdam: Swets & Zeitlinger.
- Tilburg, T.G. van. (1992a). Support networks before and after retirement. *Journal of Social and Personal Relationships*, 9, 433-445.
- Tilburg, T.G. van. (1992b). De operationalisering van wederkerigheid in het ondersteunend relatienetwerk: Vergelijking van instrumenten [The operationalization of reciprocity within the supportive network: Comparison of instruments]. In W. Jansen & G.L.H. van den Wittenboer (Eds.), *Sociale netwerken en hun invloed* (pp. 72-89). Meppel: Boom.
- Tilburg, T.G. van. (1992c). Question sequence effects in the measurement of reciprocity. *Quality and Quantity*, 26, 395-408.

- Tilburg, T.G. van. (1993). The conceptual model of reciprocity: A factor analytic approach to validity. *Paper presented at the Social Network Conference (Sunbelt XIII), February 11-14, Tampa FL USA.*
- Veiel, H.O.F. (1985). Dimensions of social support: A conceptual framework for research. *Social Psychiatry*, 20, 156-162.

SOCIAL RELATIONSHIPS, INTEGRATION, AND LONELINESS

Jenny de Jong Gierveld and Theo van Tilburg

In many languages the process of becoming old is proverbially connected to 'chagrin', dissatisfaction with life, burden, and loneliness: are these anxieties of young people fearing a vague future (Hohmeier & Pohl, 1978) or is this reality? Up until now, research findings are not consistent. Some researchers report a rising feeling of loneliness accompanied with aging, others emphasize that age in itself is not a reliable determinant of well-being and life satisfaction. In addition to age, other personal characteristics and indicators of the (social) environment of the elderly have to be taken into account to explain the variety in the attitudes and feelings of the elderly. This chapter provides an analysis of loneliness of older adults, starting with age as a determinant. The well-being and loneliness of older women and men are among the central topics in recent discussions about the consequences of an aging society. Differences in well-being as realized by the elderly require further exploration. Well-being as a broad phenomenon is defined as an aspect of quality of life. Subjective well-being refers to the subset of phenomena that relates to happiness, feelings of satisfaction, etc. (Hoff, 1995; Hox, 1986). In this chapter, subjective well-being is operationalized as the absence of loneliness. Whether the elderly can realize a situation of non-loneliness depends, among others, upon the personal and social resources at their disposal.

This chapter will examine the well-being of older women and men from the perspective of one of the central issues in the social sciences, that of *cohesion* within society. To study the degree of cohesion in a society, researchers must concentrate on the presence or absence of 'mediating structures' that can provide the individual members of society a more or less solid basis of

integration (Ultee, Arts, & Flap, 1992). Integration is directly connected to being involved in mediating structures and to accepting and living up to the same set of norms and values as the fellow members of the mediating structures. The focus in this chapter will be on the comprehensive effects of belongingness to different mediating structures for the well-being of older adults. The relationships in which older adults participate each serve a socially integrating function. The extent to which these different layers together prevent older adults from feeling lonely will be analysed in this chapter.

Mediating structures

In traditional and in modern societies, people are considered as (potential) members of several interlocking structures. The membership of some starts with birth (family membership); other memberships are acquired as one grows older. The borderline between membership from birth and membership that starts later on in life is not strict. People can decide to leave structures and to opt for others, or to opt for no bonds with structures at all (Carstensen, 1992). An example: in the past, the majority of children became church members as early as the moment of their baptism. A certain percentage of people, especially in North and West European countries, end their relationships with the church in a later phase of life. Membership of, the degree of participation in and commitment to (specific) mediating structures is more or less a matter of personal choice and is related to personal characteristics.

Whether the elderly can realize membership of specific mediating structures also depends on the personal and social resources at their disposal and the restrictions with which they are confronted. In this context, educational level as well as indicators of the state of health, age, and sex of older adults must be taken into account (see Chapter 2). The general research question in this chapter is: What is the effect of membership of and participation in mediating structures on the loneliness of older adults? In other words, the purpose of this chapter is to explore the effects of cohesion indicators on individual variability in the intensity of loneliness. More specifically:

- Which memberships of mediating structures are important for loneliness and which are not?
- Does participation in a larger number of structures result in less loneliness?

- What is the effect of different combinations of memberships of mediating structures?
- Are structures interchangeable as far as loneliness is concerned?

This chapter will examine the following mediating structures: the family, living arrangements, the social network, church, volunteer work, and voluntary associations.

The *family*, especially the *nuclear* family, used to be one of the major integrating structures of society. In modern societies, such as in West and North European, the nuclear family is sometimes replaced by other types of mediating structures, such as unmarried cohabitation, communes, group quarters, and so on. A rising proportion of people is living alone, forming a one-person household, and the percentage of elderly who live together with one (or more) of the children is rapidly decreasing in West and in East European countries (Klinger, 1992).

Research has shown a protective effect of marriages on both the physical and mental well-being of men and women (Gove, 1972). Intimacy, however, can also be provided by non-married partners (Van Tilburg, 1988). Persons with a (marriage) partner are happier on average than persons without a partner (see De Jong Gierveld, 1986, 1987; De Jong Gierveld & Van Tilburg, 1989). As a consequence, men and women with a partner are less prone to early mortality and to suicide than people without a partner (Gove, 1972; Kobrin & Hendershot, 1977; Veenhoven, 1983). The 'protection' or 'integration' idea provides a possible explanation for the relatively high degree of well-being of women and men with a partner (Dykstra, 1990; Gove & Hughes, 1980; Van Tilburg, 1988). It suggests that people need satisfying, intimate relationships from which they obtain satisfaction in the realms of affection, identity, and care. When this is realized, they are protected from unhappiness and feelings of loneliness.

To the extent that the partner bond is able to provide such intimacy, individuals with a partner are more likely to be happy and not to be lonely than individuals without a (marriage) partner. Thus, living arrangements, with special attention for the presence or absence of a (marriage) partner in the household, will be examined as a first factor in the prediction of loneliness among the elderly. But there is more to be taken into account as far as older adults' living arrangements are concerned. Within the category of elderly without partners, we must differentiate between those elderly who have never

been married or never lived in cohabitation, and those elderly that have been married but whose partners (or spouses) died. The former were forced to organize their lives as singles when they were relatively young. The widows and widowers had to *reorganize* their lives after a (long) period of living together as a couple. This process of *reorganization* after the loss of the spouse requires much energy, and comparisons with the past may give rise to more intense feelings of isolation, loneliness, and dissatisfaction with life than recognized among the never-married elderly (Dykstra, 1990).

The network of intimate *relationships* is also to be considered as a major mediating structure, providing cohesion, feelings of belongingness, and protection against loneliness. The concept of the social network concentrates on all those people with whom one interacts regularly, and with whom one has close ties. The number of relationships in the social network seems to be important: the larger the number of others with a common interpretation of reality, feelings of acceptance, etc., the more likely it is that the elderly's needs for well-being are met. Dykstra (1990, p. 47) argues that *network size and composition* should not be considered in isolation:

Solely on the basis of differences in the availability of a partner and the availability of kin relationships, one can expect the following differences in personal network size: the never married are likely to nominate the smallest number of relationships, the formerly married are likely to nominate an mediating number of relationships, while the cohabiting and married are likely to nominate the largest number of relationships. However, the more the absence of a partner and the lack of kin relationships such as children and in-laws are compensated by the involvement in alternative relationships, the less pronounced the differences in overall network size are likely to be.

Non-kin relationships are generally activated in the absence of kin relationships, and furthermore, the composition of the network also depends on the personal preferences of the people involved. The cohesive functions of the size and composition of the network for protection against loneliness, in addition to the importance of living arrangement characteristics is another purpose of this study.

Realizing a large network is generally considered to guarantee the elderly all the benefits of belonging to a set of interlocking social structures. However, especially in the realm of the network, there may be large differences among

specific types of relationships as far as their functioning is concerned. Exchange of support is a crucial additional indicator of the functioning of the network as a cohesive mediating structure. In concentrating on the effects of cohesive mediating structures, the *exchange of emotional and instrumental support* between the elderly and the network members will be investigated, to find out whether these support exchanges add to the prediction of the intensity of loneliness, once living arrangement and size and composition of the network have been taken into account.

Other types of integrating structures are *church affiliation, volunteer work, and memberships of voluntary associations*, including attendance of the activities of these organizations (see Chapter 4). Is participation in these types of activities important for the well-being of the elderly? Does this participation provide protection against loneliness, in addition to the effects of the factors already mentioned?

In principle, more structures are available for inclusion in this research project, for example, participation in the labour force. However, in the Netherlands, the number of people aged 55 and over who are still active on the labour market is very low.

Restrictions

In general, for elderly people, we have to take into account that growing older goes hand in hand with *decreasing possibilities and increasing restrictions* for participating in all kinds of social activities. Participation is directly or indirectly connected to the state of health of the elderly. Nowadays, the elderly are generally in better health than a few decades ago (Dooghe, 1992; Suzman, Manton & Willis, 1992). Nevertheless, the incidence of disability rises sharply with age. Less than five per cent of people aged 65-69, but 11 % of those aged 75-79 and 41 % of those aged 85 and over are severely disabled, according to data based on the 1980 General Household Survey in Britain (Gilbert, Dale, & Arber, 1989). Data from the US National Long-Term Care Survey show

that the oldest old (85 and over) in the United States were more likely than those age 65-74 to be disabled by a factor of almost four; were more likely to be institutionalized in the subsequent two years by a

factor of ten and were more likely to die by a factor of four (Maddox, 1992, p. 174).

In our study, we suggest taking the age of 75 as a global turning-point between the young healthy elderly and the older elderly characterized by increasing chances of health problems (see Chapter 2 for supportive evidence). And although scientists are involved in a debate about the 'real' determinants of these age-related risks (are these age, cohort, or period effects?), more and more suggest that these differences can probably be interpreted as both age and cohort differences. Especially, the current oldest old (85 years and over) and to a lesser degree the current very old (75-84 years of age) did not have the same access to education as younger generations (Maddox, 1992; Timmermans, 1992). Given the links between educational attainment and health-related restrictions, the former factor must also be taken into consideration when investigating the relationship between participation in mediating structures and loneliness.

Moreover, it is expected that educational level per se functions as an independent factor in delineating the set of older adults' possibilities and restrictions, as do financial characteristics. Consequently, these factors will be integrated in the analysis to be presented in this chapter.

Design of the study

Respondents

In 1992, face-to-face interviews were conducted with 4494 respondents. They constituted a stratified random sample of men and women born in the years 1903 to 1937. The random sample was taken from the registers of 11 municipalities: the city of Amsterdam and two rural communities in the west, one city and two rural communities in the south, and one city and four rural communities in the east of the Netherlands. The response was 61.7%. The data were collected by 88 interviewers.

The average age of the respondents was 72.8. Most were living in their own homes: 1298 (28.9%) were not married and lived alone, 2582 (57.5%) lived with a partner, and 206 (4.6%) lived in another kind of multi-person household. Finally, 351 (7.8%) lived in an institution of some sort, such as

a nursing home, a home for the aged, psychiatric hospital, or shelter for the homeless.

Questionnaire

Loneliness. In this study loneliness is defined as a situation experienced by the individual as one of an unpleasant or unacceptable discrepancy between the amount and quality of social relationships as realized, compared to the social relationships as desired. This description includes situations in which the number of existing relationships is smaller than is considered desirable or admissible, as well as situations where the intimacy one wishes for has not been realized. Thus loneliness is seen to involve the manner in which the person perceives, experiences, and evaluates the degree of his or her lack of communication with other people (De Jong Gierveld, 1987).

To measure the degree of loneliness, a measuring instrument has been developed that meets the criteria of a Rasch model, and consists of five positive and six negative items (De Jong Gierveld & Kamphuis, 1985). The positive items assess feelings of belongingness, whereas the negative items apply to aspects of missing relationships. An example of a negatively formulated scale item is: I experience a sense of emptiness around me. An example of a positively formulated item is: I can rely on my friends whenever I need them. The loneliness scale has a range of 0 (not lonely) to 11 (extremely lonely). The scale has been used in several surveys and proves to be a rather robust, reliable, and valid instrument (De Leeuw, 1992; Van Tilburg & De Leeuw, 1991).

Network size. The networks of persons with whom the respondents maintained an important and frequent relationship were stipulated by using a procedure based upon Cochran, Lerner, Riley, Gunnarson, & Henderson (1990). The following seven categories were distinguished: people who live in the same household, children and children-in-law, other relatives, neighbours, colleagues or fellow students, contacts in organizations, and other contacts (e.g. friends and acquaintances). In each of these categories, the respondents were asked to name people above the age of 18 with whom they had important and regular contact. The size of the network was determined by the number of people who were named in the seven various categories.

Social support. Questions about support were posed on a maximum of twelve of the relationships. These were the relationships with the highest contact frequency, whereby people who lived in the same household were assumed to have daily contact. Four questions were posed: about giving and receiving, and about instrumental and emotional support. The mean frequency of support within the eleven (or fewer, if fewer available) relationships other than with the partner relationship enabled us to assess the amount of instrumental and emotional support given and received by the respondent in the network, with a range from 0 to 3, in addition to the network size.

Organizational activities. Three types of organizational activities were distinguished. The first is church affiliation, as indicated by the frequency of church attendance (with five answer categories ranging from one, 'yearly or less often', to five, 'at least weekly'. The second is engagement in volunteer work (a dichotomous measure: performing at least one type of volunteer work, no or yes). The third is the active membership of voluntary associations (a dichotomous measure: active member of at least one voluntary association, no or yes).

Health. Regarding the aspect of health, three instruments were used. The first instrument contained four questions about experiencing difficulties with the following personal activities of daily life (ADL): 'Can you walk up and down stairs, ... walk for five minutes outdoors without resting, ... get up from and sit down in a chair, ... dress and undress yourself (including putting on shoes, doing up zippers, fastening buttons)?'. The five answers to choose from were: not at all, only with help, with a great deal of difficulty, with some difficulty, and without difficulty. The four ADL items formed a hierarchically homogeneous scale ($H = .68$) which was reliable ($\rho = .87$). The scale ranged from four (numerous problems) to twenty (no problems). Four questions were posed about problems with instrumental activities of daily life (IADL), i.e. preparing hot meals, changing the sheets on the bed, doing the laundry, and cleaning the house. The scale was hierarchically homogeneous ($H = .64$) and reliable ($\rho = .87$). The scale ranged from four (numerous problems) to twenty (no problems). All institutionalized respondents were assigned the score of four. ADL differs from IADL in that ADL involves personal care activities that cannot be taken over by other persons, and IADL involves activities that can. There was a strong correlation between the occurrence of problems in the two fields ($r = .50$). The third instrument pertained to a question about the respondents' perception of their own health: 'How is your health in general?' Answers could be given on a

five-point scale. Subjective health correlated with ADL ($r = .43$) as well as IADL ($r = .26$).

Procedure

First, univariate associations are investigated between sex, age, and living arrangements (household composition in combination with marital status) on the one hand and loneliness on the other hand. Second, a stepwise hierarchical regression analysis is used to determine the multivariate associations between cohesion in several domains and loneliness. In this analysis, the independent variables are the availability of a partner relationship, network size, the size of a number of parts of the network, the intensity of the supportive exchanges, and participation in church, volunteer work, and other voluntary associations. In a backwise procedure, non-significant variables are removed. Next, the significance of a number of control variables is tested by a stepwise procedure.

Finally, the association between network composition and loneliness is analysed in a two-step procedure. A typology of network composition is developed using cluster analysis. The meaning of different network compositions in relation to participating in church, volunteer, and other organizational activities is analysed using multiple classification analysis, in order to investigate the contributions of each mediating structure in explaining the variation in loneliness among the elderly respondents.

Results

General data about loneliness

About 34% of the elderly were characterized by no loneliness at all (zero score on the scale). Another 30% of the interviewed elderly endorsed one or two of the scale items, indicating minor or very moderate feelings of loneliness. In total, 36% of the elderly are characterized by more intense feelings of loneliness. The mean score on the loneliness scale (with a range from 0 to 11) for the elderly is 2.3 ($N = 4046$, $SD = 2.7$). When we weight the data to make them as representative of the Dutch population as possible, the mean is 2.1 ($N = 4082$, $SD = 2.6$). We can state that *in general* the elderly

are not characterized by extreme feelings of loneliness but by moderate feelings of loneliness.

Age differences in loneliness

Differences in loneliness will be explored, taking into account the years of birth of the interviewed elderly. *Table 9.1* presents mean loneliness scores of elderly according to their belonging to different five-year age cohort categories. Inspection of *Table 9.1* points out that there is an association between birth cohort and loneliness. The highest mean loneliness scores (3.3) are to be found among the very old, aged 85 to 89 at the moment of interviewing. The young elderly, aged 55 to 59 at the time of interviewing, are characterized by a relatively low mean loneliness score (1.8). A pairwise test showed that the differences between the older elderly (75 and over) and the younger categories of interviewed elderly (55 to 74) and the differences between the oldest (85 and over) and the old (75 to 84) are significant with $p < .01$. According to these data, one can state that with respect to loneliness the age of 75 is more or less a turning-point.

Gender differences in loneliness

The data point out that older females are more lonely than older males. The mean scores on the loneliness scale are 2.2 for men and 2.4 for women ($SD = 2.5$ and 2.8). However, the differences are small and only significant at the .05 level ($t_{(4017.1)} = -2.3, p < .05$).

Table 9.1. Age differences in feelings of loneliness

Birth cohorts (age)	<i>n</i>	<i>M</i>	<i>SD</i>
1903-1907 (85-89)	521	3.3	2.8
1908-1912 (80-84)	672	2.8	2.8
1913-1917 (75-79)	646	2.6	2.7
1918-1922 (70-74)	541	2.2	2.6
1923-1927 (65-69)	570	1.9	2.5
1928-1932 (60-64)	559	1.8	2.4
1933-1937 (55-59)	537	1.8	2.5
Total	4046	2.3	2.7

$$F_{(4039,6)} = 24.4, p = .000$$

Living arrangements and loneliness

In investigating the effects of living arrangements, we differentiate between elderly living with their spouses (or partners), elderly living alone (in a one-person household), those living in institutions (e.g. homes for the elderly), and a category of elderly living in a multi-person household without a partner. Within the category of living alone, we further differentiate between never-married, divorced, and widowed elderly. The mean scores on the loneliness scale are shown in *Table 9.2*. As can be seen, the loneliness scores of elderly differ significantly according to their living arrangements. As was expected, the elderly living with a partner are in general less lonely than the others. The differences in mean scores between those in one-person households, in institutions, and other types of living arrangements in contrast to those living with their partners are significant and correspond with the ideas about the cohesive functions of nuclear family and partnership bonds in particular as mediating structures. *Within* the category of people living alone, the mean scores of widows, widowers, and divorcees is higher than the mean scores of those elderly that have never been married. This finding is in line with the idea that the loss of a spouse gives rise to a difficult process of *reorganizing* life and to (painful) comparisons with the past, ending up in more intense feeling of loneliness. The differences in scores on the loneliness scale between the never-married and the widowed and divorced elderly are not significant, however.

Table 9.2. Feelings of loneliness according to living arrangements

	<i>n</i>	<i>M</i>	<i>SD</i>
with partner (and others)	2424	1.7	2.3
alone, never-married	147	3.2	2.9
alone, divorced	132	3.4	3.3
alone, widowed	905	3.3	2.9
multi-person without partner	177	2.7	2.7
institutionalized	217	3.7	2.8
Total	4002	2.3	2.7

$$F_{(3996,5)} = 79.4, p < .000$$

Regression on loneliness

Table 9.3 provides means and standard deviations for the different determinants of loneliness used in this study, as well as the correlations with loneliness. Table 9.3 points out that a larger network, larger numbers of network members contacted daily or a few times a week, and larger numbers of

Table 9.3. Results of a hierarchical regression of variables of cohesion on loneliness (3948 ≤ N ≤ 4046)

	<i>M</i>	<i>SD</i>	<i>r</i>	entered/removed in step						
				1	2	3	4	5	6	7
partner available (no, yes)	.64	.48	-.28	-.28	-.23	-.22	-.22	-.22	-.23	-.14
network size	13.44	9.41	-.30		-.26	-.18	-.17	-.16	-.16	-.15
# frequent contacts in network	4.15	3.41	-.27			-.12	-.11	-.11	-.12	-.12
# household members in network	.20	.56	-.08				-.04	-.03	-.02	
# children (-in-law) in network	3.59	3.15	-.19				-.05	-.05	-.04	-.04
# other kin in network	3.81	4.25	-.20				-			
# neighbours in network	1.66	2.20	-.14				-			
# others in network	3.55	4.84	-.19				-			
mean instrumental support received (0-3)	.71	.71	.00					-		
mean instrumental support given (0-3)	.53	.67	-.16					-		
mean emotional support received (0-3)	1.40	.88	-.17					-.06	-.06	-.06
mean emotional support given (0-3)	2.63	.91	-.14					-.07	-.06	-.06
frequency of church attendance (1-5)	2.63	1.80	-.13						-.08	-.08
active in associations (no, yes)	.25	.43	-.08						-	
volunteer work (no, yes)	.26	.44	-.14						-	
<i>control variables</i>										
sex (male, female)	.51	.50	.04							-
age	72.10	9.88	.19							-
educational level (1-8)	3.32	1.96	-.08							-
region (South or East vs. West)	.45	.50	.09							-
urbanization (1-5)	3.01	1.45	.11							-
subjective health (1-5)	3.65	.89	-.23							-.16
ADL-capacity (4-20)	18.64	2.65	-.21							-.07
IADL-capacity (4-20)	15.22	5.78	-.11							-
living alone (no, yes)	.29	.46	.24							.08
living in institution (no, yes)	.04	.20	.11							-
# children alive	2.81	2.17	-.12							-
# brothers and sisters alive	2.79	2.50	-.10							-
Total adjusted R ²				.080	.145	.161	.174	.180	.179	.215

- = variable did not enter the equation ($p > .01$)

specific types of network members (household members, adult children, 'other' kin, neighbours, and 'other' non-kin) are all associated with lower loneliness scores, as expected. As far as the exchange of support with network members is concerned, a negative correlation is expected and empirically proven for the amount of emotional support received by the elderly, as well as the amount of support given. These two variables probably indicate a mutually rewarding relationship between the network members. The measures of participating in church, volunteer work, and voluntary associations all proved to be negatively associated with the loneliness score. Health indicators (subjective health, ADL, and IADL) are significantly correlated with loneliness: a better state of health is associated with lower loneliness scores.

Hierarchical regression analysis is performed to assess whether variables indicating belongingness to mediating structures contribute to the explanation of the variance in loneliness scores of the elderly. Variables are entered in steps according to being more intimately or more distantly connected to the personal life domain. In the final step, a set of control variables is entered. Table 9.3 shows that cohesion within the realm of partner bonds explains 8.0% of the variance in loneliness of the elderly. The size of the network offers an additional 6.5% explanation. The composition of the network is responsible for another 1.6%, and the exchange of emotional support within the personal network add another 1.3% to the body of explanation. Church affiliation explains an additional 0.6%. Membership of mediating structures explains a total of 17.9% of the variance in the loneliness scores. Of the control variables, subjective health, ADL, and the dummy variable living alone explained an additional 3.6% of the variance (total adjusted $R^2 = 21.5\%$), while age, sex, living in an institution, educational level, region of residence, the level of urbanization of the municipality of residence, and the number of children and siblings do not contribute significantly to the explanation of loneliness.

Network composition and loneliness

Up until now, a rather straightforward indicator of the composition of the social network was used: the number of available, specific types of relationships, e.g. number of children. In the next part of the analysis, another indicator of the composition of the network will be introduced: a typology of network compositions based on a cluster analysis of the characteristics of the network, the network members, and the relationships. The composition

of each of the clusters is presented in *Table 9.4*. This table points out that the network composition of the majority of the elderly is to be found in the fourth cluster ($n = 2255$ or 56% of all respondents). This cluster is characterized by a relatively small number of network members. A second characteristic of this cluster is the low number of network members of *each* of the types of relationships. The first cluster, that embraces about 18% of the respondents, is primarily composed of elderly with relatively many children and children-in-law in their networks. The second cluster is characterized by the very high number of other kin mentioned as members of the personal network. Most striking in the composition of the third cluster is the extremely high number of relationships mentioned, including other relationships, as well as the high number of frequent contacts with network members. 'Frequent' means daily contact or contact several times a week. However, this cluster is only recognizable among three per cent of the elderly respondents. The fifth cluster is characterized by a relatively high number of 'other' non-kin, including neighbours, friends, and acquaintances.

The network composition clusters are used in a multiple classification analysis, together with the indicators of church affiliation, volunteer work, and voluntary associations, and with network size as a covariate, in order to investigate the contributions of each mediating structure in explaining the variation in loneliness among the elderly respondents (*Table 9.5*). As can be concluded from this table, the *composition* of the network of personal relationships explains a significant and interesting facet of loneliness, in addition to other cohesive life domains, such as having a partner, the size of the network, and church attendance. For example, an elderly person, who attends church weekly, has a large network of personal relationships, as well as a network that includes either relatively many contacts with children (cluster 1 and 2), or contacts with a large number of other kin and/or friends, etc. (e.g. cluster 2 and 5) has a much smaller chance of becoming lonely than others. The data indicate that the absence of cohesive bonds in one domain (e.g. children and kin) can be compensated by the realization of cohesive bonds in other domains (e.g. non-kin or via active participation in church).

Conclusion

It is a stereotype that the elderly should be described as *the* lonely category of society. There is great variation in the intensity of loneliness among the elderly: the majority are not lonely at all. This study started with a correlation

Table 9.4. Clusters of network compositions

	cluster N	1 706	2 392	3 123	4 2255	5 528
# children (-in-law) in network		7.3	4.6	4.0	2.4	3.1
# other kin in network		3.5	12.8	9.5	2.0	3.8
# neighbours in network		2.2	3.1	3.8	1.0	2.4
# other non-kin in network		2.6	4.3	21.3	1.4	9.4
# frequent contacts in network		7.2	5.8	9.4	2.5	4.5

Table 9.5. Results of multiple classification analysis of variables of cohesion on loneliness

	<i>n</i>	adjusted for other independent variables	adjusted for other independent variables and network size		
		deviation*	eta	deviation	beta
<i>network composition clusters</i>			.28		.11
1	706	-.80		-.47	
2	392	-.97		-.07	
3	123	-1.29		.45	
4	2255	.66		.20	
5	528	-.72		-.28	
<i>frequency of church attendance</i>			.13		.10
yearly or less	1942	.33		.22	
several times per year	397	-.13		.00	
monthly	159	.21		.31	
2-3 times per month	224	-.14		.08	
weekly or more	1283	-.46		-.38	
<i>availability partner in or outside the household</i>			.28		.24
no	1458	1.00		.83	
yes	2547	-.57		-.47	

$R^2 = 16.7\%$

* deviation from grand mean (2.33)

between age categories and loneliness, and the analyses showed an increase in loneliness with increasing age. However, further analysis revealed that

factors such as membership of and participation in mediating structures are more decisive for loneliness intensity than age per se.

The positive effects of the degree of involvement in different mediating structures for the prevention and alleviation of loneliness is confirmed (Antonucci & Knipscheer, 1990; Baltes & Baltes, 1988; Taylor & Brown, 1988). Most important are having a partner relationship, having a large network of frequent and close personal relationships, especially with children and children-in-law and with friends and acquaintances, having many emotional supportive exchanges (receiving as well as giving support) within the network of relationships, frequent church attendance, and living with others in a household. Age and health are related to most of these determinants of loneliness; age has no direct effect on loneliness, but health, especially subjective health, has a direct effect. Being in good health shapes the conditions to develop and maintain involvement in mediating structures, and poor health is directly and positively associated with feelings of loneliness (Penninx, 1994).

From the data presented, we cannot deny the importance of being involved in *one* specific mediating structure, such as the family (Hagestad, 1992). Being in contact and staying in close contact, and —if necessary— developing new personal relationships with a *broad*er scala of others is *crucial* in the prevention and alleviation of loneliness. It has to be recognized that, additionally, the absence of cohesive bonds in one domain can be compensated for by the realization of cohesive bonds in others. This brings us to the insightful ideas of Carstensen (1992) about the socially integrating functions of relationships; by means of older adults' abilities to *selectively choose* and rely on enriching, stable, supportive, social relationships, they can derive well-being and avoid loneliness.

References

- Antonucci, T.C. & Knipscheer, C.P.M. (1990). Social Network Research: Review and perspectives. In C.P.M. Knipscheer & T.C. Antonucci (Eds.), *Social network research: Substantive issues and methodological questions* (pp. 161-174). Amsterdam: Swets & Zeitlinger.
- Baltes, P.B. & Baltes, M.M. (1988). Psychological perspectives on successful aging: A model of selective optimization with compensation. In P.B. Baltes & M.M. Baltes (Eds.) *Successful aging: Perspectives from the*

- behavioral sciences* (pp. 1-34). New York: Cambridge University Press.
- Carstensen, L.L. (1992). Social and emotional patterns in adulthood: Support for socioemotional selectivity theory. *Psychology and Ageing*, 7, 331-338.
- Cochran, M., Larner, M., Riley, D., Gunnarsson, L., & Henderson, C.R. (1990). *Extending families: The social networks of parents and their children*. Cambridge: University Press.
- Dooghe, G. (1992). *The aging of the population in Europe: Socio-economic characteristics of the elderly population*. Brussels.
- Dykstra, P.A. (1990). *Next of (non)kin: The importance of primary relationships for older adults' well-being*. Amsterdam: Swets & Zeitlinger.
- Gilbert, G.N., Dale, A., & Arber, S. et al (1989). Resources in old age: Ageing and the life course. In M. Jefferys (Ed.), *Growing old in the twentieth century*. London: Routledge.
- Gove, W.R. (1972). Sex, marital status and suicide. *Journal of Health and Social Behaviour*, 13, 204-213.
- Gove, W.R. & Hughes, M. (1980). Reexamining the ecological fallacy: A study in which aggregate data are critical in investigating the pathological effects of living alone. *Social Forces*, 57, 1157-1177.
- Hagestad, G.O. (1992). Family networks in an aging society: Some reflections and explorations. In W.J.A. van den Heuvel, R. Illsley, A. Jamieson & C.P.M. Knipscheer (Eds.), *Opportunities and challenges in an aging society* (pp. 44-52). Amsterdam: North Holland.
- Hoff, S.J.M. (1995). *And they lived happily ever after; Constructing a measuring instrument on well-being among the elderly by means of facet design*. Dissertation, Vrije Universiteit Amsterdam.
- Hohmeier, J. & Pohl, H.J. (1978). *Alter als Stigma* [Old age as a stigma]. Frankfurt: Suhrkamp.
- Hox, J.J.C.M. (1986). *Het gebruik van hulptheorieën bij operationalisering; een studie rond het begrip subjectief welbevinden*. [The use of auxiliary theories in operationalising: a case-study of the concept subjective well-being]. Dissertation, Universiteit van Amsterdam.
- Jong Gierveld, J. de (1986). Husbands, lovers and loneliness. In R.A. Lewis & R.E. Salt (Eds.), *Men in families* (pp. 115-125). London: Sage.
- Jong Gierveld, J. de (1987). Developing and testing a model of loneliness. *Journal of Personality and Social Psychology*, 53, 119-128.
- Jong Gierveld, J. de & Kamphuis, F. (1985). The development of a Rasch-type Loneliness scale. *Applied Psychological Measurement*, 9, 289-299.
- Jong Gierveld, J. de & Tilburg, T.G. van (1989). The partner as source of

- social support in problem and non-problem situations. In M. Hojat & R. Crandall (Eds). *Loneliness: Theory, research and applications* (pp. 191-200). London: Sage.
- Klinger, A. (1992). Aging and changing household structures. In *Changing population age structures: Demographic and economic consequences and implications* (pp. 325-333). Geneva, United Nations, Economic Commission for Europe, UNFPA.
- Kobrin, F., & Hendershot, M. (1977). Do family ties reduce mortality? Evidence from the US, 1966-68. *Journal of Marriage and the Family*, 39, 737-747.
- Leeuw, E.D. de (1992). *Data quality in mail, telephone, and face to face surveys*. Amsterdam: TT publikaties.
- Maddox, G.L. (1992). Transformations of health and health care in ageing societies. In W.J.A. van den Heuvel, R. Illsley, A. Jamieson & C.P.M. Knipscheer (Eds.), *Opportunities and challenges in an ageing society* (pp. 170-186). Amsterdam, North-Holland.
- Penninx, B. (1994). Social support and social network among elderly with joint disorders. In D.J.H. Deeg & M. Westendorp-de Serièrè (Eds.), *Autonomy and well-being in the aging population I; Report from the Longitudinal Aging Study Amsterdam 1992-1993* (pp. 89-95). Amsterdam, VU University Press.
- Suzman, R.M., Manton, K.G., & Willis, D.P. (1992). Introducing the oldest old. In R.M., Suzman, D.P. Willis & K.G. Manton (Eds.), *The oldest old* (pp. 3-14). New York, Oxford University Press.
- Taylor, S. & Brown, J.D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, 103 (2), 193-210.
- Tilburg, T.G. van (1988). *Verkregen en gewenste ondersteuning in het licht van eenzaamheidservaringen* [Obtained and desired social support in association with loneliness]. Dissertation, Vrije Universiteit Amsterdam.
- Tilburg, T.G. van & Leeuw, E.D. de (1991). Stability of scale quality under various data collection procedures: A mode comparison of the 'De Jong-Gierveld Loneliness Scale'. *International Journal of Public Opinion Research*, 3, 69-85.
- Timmermans, J.M. (1992). *Rapportage ouderen* [Report on the elderly]. Rijswijk, Sociaal en Cultureel Planbureau.
- Ultee, W., Arts, W., & Flap, H. (1992). *Sociologie: Vragen, uitspraken, bevindingen* [Sociology: Questions, propositions, findings.] Groningen: Wolters-Noordhoff.
- Veenhoven, R. (1983). The growing impact of marriage. *Social Indicators Research*, 12, 49-63.

REFLECTIONS ON OLDER ADULTS' LIVING ARRANGEMENTS AND SOCIAL NETWORKS

Kees Knipscheer and Pearl Dykstra

The focus of this volume was the description of the social relationships of older adults. The central question was: What do the current living arrangements and the social networks of older adults in the Netherlands look like? Living arrangements and social networks refer, on the one hand, to an individual's most concrete and direct embeddedness in a specific social environment, mostly composed of a number of persons with whom either ascribed or achieved relationships have been maintained over a particular period of time. In their turn, the formation of living arrangements and social networks are related to the macro social changes in a society. On the other hand, living arrangements and social networks of older adults are the outcome of a number of life course dynamics, as personality characteristics, individual capacities, opportunities, and the choices governing life. While we are fully aware of the importance of this macro context and these individual life contingencies, our focus was on the analysis of the micro context by itself. Only an in-depth study of the micro context of older adults will enable us to better understand the implications of the aging society of the next decades.

We adopted the notion of convoy, viewing each person as 'moving through the life cycle surrounded by a set of people to whom he or she is related by the giving or receiving of social support' (Kahn & Antonucci, 1980), and modified it in order to more easily elaborate on its internal structure. Central to our survey was an inventory of older adults' personal relationships from several angles. The total set of these relationships was viewed as a multiplex system of interlocking structures, decomposed into several substructures and analysed from several perspectives. First of all, three consecutive layers were described: living arrangements, the family, and organisations such as the

church and voluntary associations. Secondly, we focused on the important relationships with a regular frequency of contact. An overview was provided of the size and composition of this network of important relationships. Next, the so-called proximate network was selected, analysing not only the size and composition of this substructure, but also the presence of support resources. The following step involved looking at the supportiveness of the 'top-twelve', those network members with whom contact was most frequent. The question of the extent to which the different elements of this multiplex system serve an integrating function and help older adults from feeling lonely, was addressed last.

It is impossible to make a complete overview here of all the detailed findings presented in previous chapters. This is not our intention either. This chapter will focus on a number of findings which perhaps are not unique to our study but are nevertheless interesting because they are contrary to popular stereotypes. Furthermore, we will try to follow a 'cross-analysis' approach over successive chapters and identify a set of general patterns according to age, gender, and living arrangements. Finally, some future directions will be explored and possible policy implications will be presented.

Beyond stereotypes

Social networks

Network size is a crucial indicator of older adults' opportunity structure (Fischer, 1982; Van der Poel, 1993). It provides information on their social embeddedness and on the availability of resources. Answers to the question of why older adults' networks differ in size are essential in gaining an understanding of differences in the extent to which valued goals are attained, and more generally, in understanding differences in well-being. This study has shown the wide variability among older adults in the number of individuals they nominate as network members, that is, those who are 'important' to them and with whom they are in touch regularly. The median network size was between 10 and 11. Fifteen respondents nominated no network members at all, and 87 nominated only one. Some respondents nominated a large number, with a maximum of 77. What does our study tell us about determinants of differences in network size? Interestingly *age per se* was found to be a *poor indicator* of network size. Notwithstanding that network size showed a near linear decline with age, age differences accounted

for only a fraction of the variability in network size. In other words, to differentiate in the older adult population, those with relatively small networks (i.e. those in relatively disadvantaged positions) from those with relatively large networks (i.e. those in relatively advantaged positions), it is not very helpful to look at age differences. Our study has shown that more is to be gained from an examination of life histories. Particularly relevant is whether or not older adults have ever married, and whether they have families of their own.

Loneliness

Public opinion considers loneliness to be one of the main problems of older people. Forty per cent of the population feels this is the case in the Netherlands (Teng, Schuyt, & Goede, 1994) and in the countries of the European Union (E.C., 1993). Among the older European population (60+), 44% named loneliness as the most important problem for elderly people, while only 12% said they themselves often felt lonely. From our study, it is evident that only a limited proportion of the elderly feel really or consistently lonely. While there is great variation in the intensity of loneliness, the majority are not lonely at all. More important, however, may be the outcome that loneliness appears not to be related to aging per se, but rather to circumstances which change with age, such as the absence of a partner, a limited network, and a limited number of frequent contacts, as well as a poor health rating. The most lonely are not necessarily the oldest persons, but those who have limited resources in terms of relationships and/or in terms of health. These older adults are represented rather equally over a range of age categories. Surprisingly too, these older adults are rather equally divided over men and women. This may imply that many women without a partner are able to compensate for the absence of that relationship by having a relatively large network and/or a high number of frequent contacts.

Social participation

A number of interesting findings concern the levels of social participation of older adults. For active membership of organizations and volunteer work, the participation rates decreased with age. Restrictive circumstances did not provide an adequate explanation of the age decline. That is why references were made to Carstensen's (1991) socio-emotional selectivity theory, which

suggests that older adults choose directions for later life which best suit their needs and capacities, as do younger people earlier in life. This selectivity may be connected with a somewhat contrasting finding, namely the absence of a decline with age in religious involvement. This finding undeniably reflects cohort changes in religious involvement in the Netherlands. Nevertheless, it is also consistent with notions that spiritual support becomes more important at advanced ages, when possibilities to communicate may easily deteriorate. Moreover, the data indicate that the church is an important avenue of social participation, for women in particular. One should keep in mind that the social functions of the church do not apply to church services alone, but open opportunities for other forms of participation.

The childless

Of special interest is the situation of childless elderly, not only because of the stereotype that these elderly are at a disadvantage, but also because children have long been considered an investment for late life. Even nowadays, it is said that older parents build up a bank account in the relationship with their children (Antonucci & Jackson, 1989). In other words, childless elderly are assumed to lack an important resource to fall back on in case of need. The issue of childlessness is of special importance because the proportion of childless elderly is expected to increase in the next decades. In our sample, almost 15% had no children (the large majority never had children). There are indications that these elderly are well able to cope with this absence of children. For example, the analysis of the proximate network reveals that childless elderly have more siblings, friends, and other non-kin in their proximate network than parents. More generally, the childless appear to have an extensive reservoir of relationships outside the immediate family.

The never-married

The cohorts represented in our sample grew up in a period of high nuptiality (Beets, 1993; Van Poppel, 1992). Some of the older adults in our sample will have made a deliberate decision not to marry, others will have had no opportunity. This background makes the systematic contrast between never-married men and never-married women in our sample remarkable. The never-married women in comparison with other women were the least restricted by a lack of resources, while the never-married men were the most restricted

among the men. Never-married men had the smallest social networks (mean size 7.8) in comparison with all other partner status categories, while never-married women barely differed from divorced women (mean size 12.1 and 10.6, respectively). Social participation of never-married men was low in comparison to married men, while the social participation of the never-married women (and of the widows) was significantly higher than for married and divorced women. Presumably, these findings reflect differential selection into marriage (Bernard, 1973). Those who remain unmarried tend to be 'high-resource' females who fare relatively well in life, and 'low-resource' males who are less successful in life.

Family life

For decades, modernisation of society has been considered a threat to family life. The impact of industrialisation on kinship systems, with its geographical and social mobility, could hardly be overestimated. Social scientists and popular information systems have created a stereotype of the modern broken family in an age of individualism, materialism, and egocentrism. Our data indicate that this stereotype does not apply to the Dutch family system. Older parents are not isolated from their siblings and their children. On average, about 75% of older adults have monthly contact with at least one of their siblings and about 15% have interactions with four of them. Two thirds of older adults have at least one of their siblings living within a travelling distance of less than 30 minutes. As expected, interaction with children is more frequent and a higher proportion of children live nearby than do siblings. More than 90% of the parents have weekly contact with at least one of the children, and over 50% have three or more children with whom they interact monthly or more often. More than 85% of the parents have at least one of the children living within a travelling distance of less than 30 minutes. Although these figures partially diminish common stereotypes about modern family life, other figures seem to be more consistent with them. In the context of delineating the social network, the older adults were asked to name those children (and their partners) with whom they interacted regularly and who were important to them. About one quarter of the children were not selected in the social network, while in a next question more than 60% of the siblings were not nominated as network members. The finding that available family members were not selected as network members possibly reflects estrangement and lack of concern for each other's welfare. In that sense, the data can be interpreted as consistent with actual stereotypes. However, it seems to

correspond more closely with the notion of voluntariness as a new element in the formation of kinship relations (Finch, 1989; Hess & Waring, 1978). Nowadays, kinship relationships are much less governed by strict obligations; they are subject to negotiations and exercise of choice. Clearly, despite frequent interaction among relatives, family relationships must compete with the other relationships which are important to older adults.

Variability in social relationships and underlying mechanisms

This section will identify a number of general patterns that have emerged from the detailed analyses in the previous chapters. The focus is on differences in the social networks of older adults in relation to age, gender, and living arrangements. Additionally, however, we want to suggest and integrate some notions which may help to explain these differences. As we have seen, a very small minority (2.5%) mentioned nobody or only one person when asked for those people with whom one had regular contact and who were important, while more than 20% mentioned 20 or more. This large differentiation in the size of the social network is partly related to age, gender, and marital status, but more importantly to individual life course issues, to specific characteristics of the network itself, and to other contextual contingencies.

Age

Firstly, we will look at patterns based on age differences. Because we only have cross-sectional data, it is impossible to talk of aging effects. Nevertheless, our data, covering a span of 35 years, suggest some interesting findings which may indicate two age-related processes. One finding pertains to the decrease in network size with age. The older people are, the fewer important and regular contacts they have. In itself this result is not remarkable. The question is: What is the reason for this decrease? Firstly, it appears to be the outcome of a *process of loss*. The older people become, the more likely they are to lose parents, partners, siblings, friends, neighbours, and 'other' non-kin. Clearly, most of these losses concern age peers, which may be lost because of death. To replace them would claim an increasing amount of energy. This is the case not only because more and more age peers are lost, but also because fewer and fewer age peers are available. The older people become, the more they become 'survivors'. With long-standing relationships falling away, and increasing proportions of social

contacts who are members of a younger generation, older adults are increasingly likely to feel they inhabit a 'world of strangers' (Dowd, 1986).

Secondly, however, relationships may end because of a *process of selective withdrawal*, sometimes initiated by one of the relationship partners, sometimes mutually supported. Especially older women may experience a loss of attractiveness and gradually retreat from interactions (Matthews, 1979). The decrease in 'other' non-kin relationships may indicate—for one reason or another—a decision to reduce participation in organisations. Active membership in voluntary associations or active participation in volunteer work requires a minimum of resources. People may withdraw from participation in organisations because of declining functional capacities. The oldest may miss age mates among the members. However, selection does not only occur among achieved relationships. In the long run, people seem to focus more exclusively on their favourite family relationships. Our data indicated that about 25% of the children are not included in the network of regular and important relationships and about 60% of the siblings. Some family relationships may lose their significance, be it because of geographical distance, disparity in interests, or conflicts. The net outcome of the loss of relationships and of selective withdrawal from relationships is a decrease in network size.

Our analyses also indicate that the age-related processes of loss and selective withdrawal are evident in a general decrease in the intensity of supportive exchanges. In the case of relationship losses, the decrease in the size of the network directly results in a decrease in the intensity of support at the network level, emotional as well as instrumental support. This is because total support is a function of both the number of relationships in the network and their supportiveness. For example, when highly supportive relationships such as those with parents or siblings are lost through death, and replaced by non-kin relationships with a weaker support base, the net outcome in terms of total support may be lower than before. Selective withdrawal may also have consequences for the exchange of support within relationships. Withdrawal does not necessarily concern the termination of relationships, but may involve the discontinuance of supportive functions. People may become unable to perform demanding *instrumental* support-giving activities when they experience declining functional capacities, while at the same time the instrumental support received increases precisely because of increased needs. Gradually, exchanges of instrumental support which were reciprocal become increasingly unbalanced. As to the exchange of *emotional* support, the story is somewhat different. Our data showed a steady decline with age in the

giving and receiving of emotional support, both at the network level and the relationship level. The decline at the network level is related—at least partly—to the decline in network size due to the loss of relationships. The decline at the relationship level may indicate a retreat from involvement in personal relationships. However, it may also be a cohort effect. It is quite likely that the expression of personal experiences and innermost thoughts is foreign to the relationships of the oldest respondents. Their relationships should, therefore, not be considered to be of a lesser quality, but rather of a different content. As was suggested in the introductory chapter, when people become older ‘affiliation and companionship may need to be counterbalanced by solitude and privacy’ (p. 4). As such, the decline in the giving *and* receiving of emotional support may indicate a direct aging effect. Functional decline and/or health problems may also play a role. At advanced ages, problems of daily life are likely to receive priority over psychological involvement in other people’s lives and expressiveness in relationships.

Gender

In addition to age-related processes, this volume has also highlighted differences between men and women. Remarkable is that, in general, we identified a limited number of gender differences. This suggests that age-related changes in social relationships ultimately work out more similarly for men and women than is often suggested. Of course, the ‘ultimate’ similarities can mask different underlying processes: do the circumstances of men and women show similar changes, or do men and women adapt differently to experienced changes? We found no differences between men and women in the frequency of contact with kin and no differences in network size. Among both men and women the levels of supportive exchanges decreased with age. However, men invested somewhat more in instrumental support, while women invested more in emotional support. These similarities between men and women are the more remarkable given the differences between men and women in living arrangements and available resources. Significantly more women than men live alone and in general (with an exception of the never-married) women have lower incomes, levels of educational attainment, and poorer health ratings. Our findings show that on average, women are more lonely than men. However, taking into account the restrictions for women—especially the higher proportion of them living alone and having health problems—the difference in loneliness between men and women no longer exist.

Living arrangements

Further differentiation is demonstrated by taking living arrangements into consideration. In general, those living with a partner have higher rates of social participation, a larger social network, a larger proximate support network, more intensive supportive exchanges, and lower levels of loneliness. The presence of the partner is clearly an advantage. Nevertheless, a number of contextual differentiations are of interest. For instance, the frequency of interaction with siblings is not only dependent on size of the family to which the siblings belong, but also on the availability of offspring of their own, and on the partner status of either of the siblings involved in the relationship. This demonstrates that the functioning of relationships in a multiplex system of overlapping groups depends both on individual characteristics of the persons involved and on contextual circumstances such as family structure.

The importance of having a partner does not mean that living alone in itself has negative implications for the network. For example, elderly persons who live alone have relatively more neighbours and friends in their proximate support network in comparison with others. This suggests that those who have a stronger need for proximate relationships (not having a partner) are well able to organize substitutes. Moreover, it is essential to take into consideration the reasons for living alone or the events leading to it. Among those living alone, large differences in social network characteristics emerge according to marital history. For example, those who live alone as a result of widowhood have a larger social network and more intensive supportive exchanges than those who are divorced or have never been married. It seems as if widowhood is a network mobilising event, while divorce works out in an opposite direction. In addition, to a certain extent, the widowed have a complete network at their disposal, while in case of a divorce social networks mostly split up (Broese van Groenou, 1990). The relative advantage of the widowed also partly relates to numbers. Given a preference among the widowed to socialize among 'peers', the larger availability of people in similar circumstances offers them more opportunities for involvement in mutual networks. The mobilisation of network support seems easier for the widowed because they can more legitimately depend on others, while divorcees seem more inclined to demonstrate their independence. Our findings support this notion. Compared with others, widows and widowers have many non-reciprocal relationships, in most of which they were receiving large amounts of instrumental support.

Evaluation

A central aim of the NESTOR 'Living arrangements and social networks of older adults' research programme was to fill the lacuna in simple descriptive information on older adults' households, families, social activities, personal ties with others, health and general well-being. In the Netherlands such information is not available from censuses. A strong sensitivity to privacy issues is the main reason why no census has been held since 1971. Such information is not available from the large scale surveys organized by the Netherlands Central Bureau of Statistics either, mainly because they are surveys of the general population. The numbers of older adults in their samples are too small for comparative analyses within that group, and the institutionalized are rarely incorporated in their sampling frames.

However, basic description was not the only aim of our research programme. Additionally, our aim was to gain an understanding of the variability in older adults' living arrangements and social networks, and consequently, to explain why some men and women fare well in old age and others are less successful. For that reason more detailed information was gathered on life histories: information on the parental home, participation in the labour force, marriage(s), births, household composition over the years, and so forth. It was also the reason for inquiring in greater depth into the characteristics of network relationships: duration, frequency of contact, geographic proximity, partner status, and supportive exchanges.

The descriptive analyses in the successive chapters have taught us something about the utility of different social-structural characteristics in making meaningful distinctions within the older adult population. In other words, our study enables us to say something about the kinds of differentiations that should be made when describing the living arrangements and social networks of older adults. One of the lessons we have learned is that age differences per se offer only limited insight. Though most of the chapters reported significant age differences, they accounted for only small proportions of the variance: substantial differences existed among the older adults *within* each of the distinguished age categories. Our study also shows that it is not necessarily meaningful to look at general gender differences. Rather, gender should be considered *in association with* other characteristics, notably marital status and parental status. For example, consistent across chapters were findings indicating more favorable circumstances for never-married women than for their male counterparts. The general picture that emerges from the

successive chapters in this volume is that, after taking into consideration age, gender and living arrangement differences, considerable variation within the distinguished categories of older adults remains. Here lies the challenge for future research. Using the more detailed information on life histories and the characteristics of network relationships, we hope to arrive at a better understanding of the diversity in aging.

References

- Antonucci, T.C. & Jackson, C.S. (1989). Successful aging and life course reciprocity. In A. Warnes (Ed.), *Human aging and later life: Multidisciplinary perspectives* (pp. 83-95). London: Hodder & Soughton.
- Beets, G. (1993). Demographic trends: The case of the Netherlands. In N. van Nimwegen, J.-C. Chesnais & P. Dykstra (eds.), *Coping with sustained low fertility in France and the Netherlands* (pp. 13-42). Amsterdam: Swets & Zeitlinger.
- Bernard, J. (1973). *The future of marriage*. New York: Bantam.
- Broese van Groenou, M.I. (1991). *Gescheiden netwerken: De relaties met vrienden en verwanten na echtscheiding* [Separated networks: Relationships with friends and relatives after marital separation]. Dissertation, Rijksuniversiteit Utrecht.
- Carstensen, L.L. (1991). Socio-emotional selectivity theory: Social activity in the life-span context. *Annual review of gerontology and geriatrics*, 11, 195-217.
- Dowd, J. (1986). The old person as stranger. In V.W. Marshall (Ed.), *Later life: The social psychology of aging* (pp. 147-190). Beverly Hills: Sage.
- European Commission (1993). *Age and attitudes; Main results from a Euro-barometer survey*. Brussels: EC-Dir V.
- Finch, J. (1989). *Family obligations and social change*. Cambridge: Polity Press.
- Fischer, C.S. (1982). *To dwell among friends: Personal networks in town and city*. Chicago: University Press.
- Hess, G. & Waring, J. (1978). Parent and child in later life: Re-thinking the relationship. In R. Lerner & G. Spanier (Eds.), *Child influences on marital and family interactions* (pp. 241-273). New York: Academic.
- Kahn, R.L. & Antonucci, T.C. (1980). Convoys over the life course: Attachment, roles and social support. In P.B. Baltes & O. Brim (Eds.),

- Life-span development and behavior* (vol. 3, pp. 253-286). New York: Academic.
- Matthews, S. (1979). *The social world of old women*. London: Sage.
- Poel, M. van der (1993). *Personal networks: A rational-choice explanation of their size and composition*. Amsterdam: Swets & Zeitlinger.
- Poppel, F.W.A. van (1992). *Trouwen in Nederland: Een historisch-demografische studie van de 19e en vroeg-20e eeuw* [Marriage in the Netherlands: A historical-demographic study of the 19th and early 20th century]. Dissertation, Landbouwwuniversiteit Wageningen. A.A.G. Bijdragen 33. NIDI report 31.
- Teng, H.B., Schuyt-Lucassen, N.Y., & Goede, H.P. (1994). *Opvattingen over ouderen: Rapportage van een onderzoek naar beeldvorming over ouderen* [Opinions about the elderly: Report of a study on conceptions of the elderly]. Amsterdam: Stichting Toegepaste Gerontologie, VU.

DATA COLLECTION

**Marjolein Broese van Groenou, Theo van Tilburg, Edith de Leeuw,
and Aart C. Liefbroer**

This appendix gives some general information on the steps taken to collect data for the NESTOR program 'Living arrangements and social networks of older adults' (LSN). It also provides a detailed analysis of the non-response and an assessment of the representativeness of the realized sample.

A.1. Determination of the sample

Stratification by sex and year of birth. The sample was stratified according to sex and year of birth. Stratification according to sex was called for because men and women generally differ as regards structural opportunities for interacting with others. More specifically, older men and women differ with respect to their living arrangements and whether or not they have a partner. In order to stratify the sample according to age, we selected years of birth ranging from 1903 to 1937, so that on January 1, 1992 the respondents varied in age from 54 to 89. The lower age limit was chosen because people above 54 are increasingly being included in the category of senior citizens. The youngest age cohorts are on the verge of experiencing changes in their work situation and living arrangements (empty nest). The upper age limit of 89 was chosen because people older than 89 are increasingly less able to participate in the lengthy interview as planned.

The total number of respondents to be interviewed was set at 4,000. This figure was chosen because it made it possible for the total of 70 different categories of sex and years of birth to be filled with numbers high enough for complex data analyses. The stratification of the sample means the same number of males and females had to be selected for each year of birth. In

addition, the sample was selected in such a way that after five years, the number of males and females in the oldest age groups would still be large enough to be studied. The reason for this was that the LSN program is linked with the Longitudinal Aging Study Amsterdam (LASA), which is to provide a ten-year follow-up to the LSN sample. Based on NCBS survival rates of the population in the 55 to 84 age group (NCBS, 1990), weights were calculated to determine the number of males and females in each age category. The decision was made not to include persons aged 85 to 89 (year of birth 1903-1907) in the weight measurement, since this would lead to a very large oversampling of this age category. The number of persons aged 84 was calculated for these age categories. This would have resulted in an oversampling of the oldest age groups in the sample, but the samples of most of the smaller municipalities did not contain enough persons (especially males) in the oldest age category. The projected number of respondents in the oldest age category was thus relatively low (columns projected in *Table A.1*).

Selections of regions. For reasons of efficiency and cost control, the selection of respondents was restricted to three regions: the northeast, the southeast, and the west. These regions can be viewed as representing differences in culture, religion, urbanization, and aging. No strict criteria were used to specify these regions. The *northeast* region includes all of the province Overijssel and the northeastern part of Gelderland and Flevoland. In addition to Zwolle as a city, this region contains various smaller cities and many rural

Table A.1. Respondents by year of birth and sex; projected and realized numbers

Year of birth	male		female		total	
	projected	realized	projected	realized	projected	realized
1903-07	284	337	286	352	570	689
1908-12	431	383	390	391	821	774
1913-17	328	378	310	334	638	712
1918-22	274	289	273	300	547	589
1923-27	242	272	253	321	495	593
1928-32	226	267	248	313	474	580
1933-37	215	270	240	287	455	557
Total	2,000	2,196	2,000	2,298	4,000	4,494

villages. This part of the Netherlands is characterized by relatively large numbers of Protestants and a low degree of urbanization. The *western* region includes the Randstad, which is the urban agglomeration of the Netherlands. The Randstad contains the four major cities Amsterdam, The Hague, Rotterdam, and Utrecht. The area is densely populated and the population is mixed with respect to religion. What we call the *southeast* region covers the eastern part of the province North Brabant. The majority of the population in this region is Roman Catholic. The people live in cities and villages with a relatively low level of urbanization. For the elderly in very small villages, access to the 'outside world' is limited by inadequate public transportation. In addition to the choice of regions, a wide range of differences in urbanization was also accomplished by selecting at least two municipalities in each region, a large or medium-sized city (high population density), and one larger rural town or several smaller ones (low population density).

Selection of the municipalities. Every effort was made to select a sample that was representative of the Dutch population aged 55-89 years with respect to region and degree of urbanization. A combination of the two criteria, regional variation and degree of urbanization, provided a guideline for the number of respondents from the various municipalities to be selected in the sample. The decision was made to include only one of the four major Dutch cities (Amsterdam, The Hague, Rotterdam, Utrecht) in the sample, and to focus on medium-sized cities in the other regions. In all three regions, several small towns or villages in rural areas had to be selected. Given the criteria and the sample size of 4,000, the number of persons to be selected from the municipalities in the various regions could be calculated.

As central municipalities, Amsterdam in the west, Zwolle in the northeast, and Oss in the southeast of the Netherlands were chosen. A few criteria were set to select the rural municipalities. They had to have a low population density and be oriented towards the main city in the region. To balance the large numbers of Roman Catholics in the southeast, municipalities that were largely Protestant were selected in the northeast. In the west, two municipalities north of Amsterdam were chosen: Wormerland and Waterland. Both of them were composed of several large and small villages in a relatively large rural area. In the northeast, Zwartsluis, Genemuiden, and Hasselt were chosen as the three largely Protestant municipalities. Since all three of them were small and densely populated communities, Ommen was chosen as a fourth municipality with a more rural character and a lower population density. In the southeast, we chose Uden as an urbanized rural municipality.

Boekel was chosen because it was a small farming village. *Figure A.1* shows the location of the selected municipalities in the Netherlands.

Results from the selected municipalities. Most of the eleven municipalities provided the sample addresses without any problems. In Amsterdam and Boekel, however, the municipality only agreed to cooperate if a refusal procedure was used, with the municipality directly addressing the selected group. The sample members had to make clear by returning a card that they were not willing to be approached by the researchers from the Vrije Universiteit. If they did not return the cards within three weeks, their addresses were given to the researchers. Despite the fact that this procedure involves a selection bias of the sample, we agreed to the procedure because we did not want to lose Amsterdam for the study. In the case of Boekel, we agreed because the alternative rural municipalities used the same refusal procedure.

A.2. The interviewers

The aim was to conduct 4,000 interviews in six months, starting in January 1992. Rather than work with the same interviewers for the entire period, the decision was made to recruit and train three teams of interviewers, each of which would work for a period of two months. Concerning the recruitment of the interviewers, two major decisions were made. Firstly, local interviewers were recruited, who lived in or near the municipalities in the study. One of the reasons was to save on travelling costs and travelling time. An additional advantage was that local interviewers could understand or speak the dialect spoken in the region. Particularly in the northeast and the southeast of the Netherlands, this was expected to increase participation. Another reason was that the respondents were to be approached by the interviewers in person. This was expected to increase the response of the elderly. Since it was expected that several attempts to contact the respondent would be necessary before making an appointment, interviewers who lived in or near the municipalities were preferred. In addition to living in the region, a few other criteria were used in selecting the interviewers, like availability and flexibility in spare time during the day, a general educational level, and being between 22 and 55 years old. A total of 88 interviewers were hired during the process of data collection.

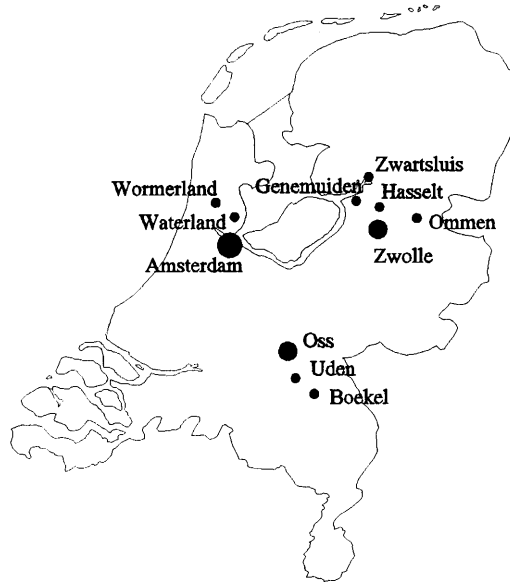


Figure A.1. Location of the 11 municipalities in the Netherlands

Training the interviewers. The goal of the four-day interview training was fourfold:

1. to practice difficult parts of the questionnaire and hypothetically difficult interview situations,
2. to become acquainted with the respondents and practice how to contact and interview them,
3. to become acquainted with the administrative procedures concerning obtaining new addresses, contacting the supervisor, and returning the completed interviews, and
4. to become acquainted with the use of the computer and the contents of the face-to-face interview.

After two days of training, the third day was reserved for practising the interview with an elderly person in the surrounding of the interviewers. These pilot interviews were discussed on the fourth and final day of the training. Each training was given by two persons, the regional supervisor and a co-trainer. Use was made of a videotape on interview training, in which several

rules of interviewing were demonstrated. Role playing enabled the trainees to practice difficult interview situations.

Supervising the interviewers. Members of the research staff served as supervisors and phoned the interviewers every week. They discussed the progress they were making and the contents of the interviews. All interviews were taped, provided the respondent did not object. Interviewers sent taped interviews to their supervisors weekly. The supervisor listened to selected parts of the tapes and discussed interview style, suggestive questioning, handling difficult situations, and so forth with the interviewers. Three to four weeks after the start of each interview period, a meeting was held to discuss interview problems with the total group of interviewers in each region. The supervisors were informed every week by the computer output as to how many interviews had been conducted and how many prospective respondents had refused to cooperate.

A.3. Planning and course of the data collection

Selecting and approaching the respondents. From the samples drawn from the registers of the municipalities, addresses were selected to be approached by a specific interviewer. The respondents were selected randomly within strata of year of birth, sex, and municipality. The selected respondents received a letter introducing the study and asking them to participate in it. It announced the arrival of an interviewer within the next few days to make an appointment for an interview. A flyer was also enclosed with more information about the objectives of the study and the background of the researchers.

The interviewer approached the prospective respondents (preferably on the doorstep and not by phone) and asked them to participate in the study. If the respondent was not at home, approach attempts were carried out until the closing date of the period of data collection (December 1992). If a prospective respondent refused to cooperate, the interviewer was asked to state the reason as well as whether the respondent refused right away or after some discussion. If the respondents agreed to participate, an appointment was made for the interview. At the time of appointment, the interviewer went to the home of the respondent with a laptop computer and conducted the interview. After returning home, the interviewer answered a number of questions related to the course of the interview and the respondent's behaviour.

If physical or mental deficiencies prevented the respondent from being able to participate in a lengthy, one-and-a-half-hour interview, the interviewer had the option to choose the short version of the interview. If, as a result of physical and mental deficiencies, the interviewer was not even able to conduct a short version, he or she tried to obtain the name and address of a proxy. This was to be a person close to the respondent, who could answer a few questions about the living and health situation of the respondent. At a later stage in the data collection, these proxies were contacted by phone to answer a few questions about the respondent.

Completing the data collection. The period when prospective respondents were approached was from January 3 to July 12, 1992. After this date, no new prospective respondents were approached to participate in the study, although efforts were made to increase the response. The first step was to re-approach people who had not been reached. The second step was to re-approach people who had initially refused to participate in the study. Only the respondents who had used 'soft' reasons for not participating the first time were selected. For example, they had been ill or lacked the time or interest to take part in an interview. Since the interviewer recorded the reason for refusal at the first approach, it was possible to select only those respondents who had given some leeway for arguments.

A.4. Realized sample

By the end of December 1992, a total of 4,494 respondents had participated in the study. Proxy interviews had been conducted with another 217 respondents. This section gives a short description of the realized sample. First, it is compared with the projected numbers of males and females and per birth cohort (Table A.1), and the total numbers in each municipality (Table A.2). Table A.1 shows that the projected number of interviews was realized in each stratum, with the exception of the males born in 1908-1912. The intention was to overrepresent the oldest old, based on the requirements for the longitudinal follow-up by LASA. Our efforts resulted in a mean age of 72.8 years, whereas a mean of about 71.8 years would have been expected if the strata had been sampled equally. However, the over-representation of the oldest old was less than had been projected (mean projected age: 73.2 years). Table A.2 shows that the distribution of the respondents by municipality corresponded fairly well to the projected distribution.

Table A.2. Projected and realized sample by municipality and region

municipality	region	population (x 1,000)	projected		realized	
			abs.	%	abs.	%
Amsterdam	west	714	1,080	27.0	1,296	28.8
Waterland	west	18	360	9.0	380	8.5
Wormerland	west	14	360	9.0	365	8.1
Zwolle	northeast	97	540	13.5	549	12.2
Genemuiden	northeast	8	100	2.5	158	3.5
Ommen	northeast	18	300	7.5	363	8.1
Zwartsluis	northeast	4	200	5.0	211	4.7
Hasselt	northeast	7	100	2.5	132	2.9
Oss	southeast	52	540	13.5	533	11.9
Uden	southeast	36	240	6.0	311	6.9
Boekel	southeast	9	180	4.5	196	4.4
			4,000	100.0	4,494	100.0

Not all 4,494 respondents completed a full interview. Various versions are possible: a full interview was completed (4,053, 90.2 %) or terminated at some point before the end (94, 2.1 %); a short interview was completed (342, 7.6 %) or terminated at some point before the end (5, 0.1 %).

A.5. Non-response

Non-participation in surveys is increasing in societies that have traditionally used the survey method extensively. In most West European countries and in the United States, response rates to social science surveys have declined in the last two decades and this trend toward non-participation is especially strong in the Netherlands (De Heer, 1992).

Age is one of the strongest correlates of non-response. Older people feel a stronger resistance to surveys, and the refusal rate among the elderly is high in general social surveys (Herzog & Rodgers, 1988). But there is also some evidence that they tend to cooperate more readily in surveys which are of direct interest to them (Hoinville, 1983). The literature (see for a review Groves, 1989) on non-response states two potential reasons for the higher refusal rate among the elderly. Firstly, fear of the unknown and of

victimization can make older people reluctant to open their doors to strangers (Herzog & Rodgers, 1989). The same fears can also make people less inclined to interact with strangers and invite them into their homes. Secondly, social disengagement might help explain the reduced cooperation of the elderly in general surveys (Goyder, 1987). Relatively little research has been conducted to test these hypotheses.

In designing and implementing our survey, we did our utmost to overcome the anticipated low response rates. For instance, to help overcome their fear of the unknown, all potential respondents received a letter in advance introducing the survey and the interviewer. The name and address of the sample member was in the heading of the letter, the name and phone number of the interviewer was included in the text, and the letter was signed in blue pen by the program director. Also, all interviewers were issued an identity card with their photograph on it, and were instructed to keep this card ready and show it even before the respondents asked for it. During the interviewer training, special attention was devoted to how to convince and reassure hesitant respondents. Furthermore, to overcome their disinterest, an attractive brochure was sent to all potential respondents explaining the study and emphasizing its importance and its direct significance for the respondent. An extended field period was planned to accommodate respondents who were temporarily indisposed, and a small gift was offered to all respondents as a token of appreciation for their help. Beside these activities directed at the individual sample member, information was sent to local institutions (e.g. homes for the elderly), general practitioners, and local papers, which resulted in some publicity.

Overall non-response. The response rate is defined as the number of interviews that were actually completed, divided by the number of all sampled cases in which an interview could have been completed (Groves, 1989). This rate most clearly estimates the number of all eligible persons measured by the survey procedure. This results in an overall response rate of 61.7% (the comparable figure for the birth cohorts 1908-1937, the LASA sample, is 62.3%), which is comparable to response rates for the general population of the Netherlands (De Heer, 1992). Considering the non-response problems when interviewing an elderly population, the results are satisfactory.

Specific non-response with respect to region. Response rates in the Netherlands differ according to region. For instance, on average, response rates in the province of Brabant in the south are higher, while response rates

in the city of Amsterdam are lower (Louwen, 1992). In presenting response rates by region, we divided the region west in Amsterdam, which is viewed as a difficult region, and Wormerland-Waterland, which is a rural area with a higher expected response rate. The Amsterdam response rate was 54.2%, and in Wormerland-Waterland it was 66.6%, in Zwolle and surroundings 61.8%, and in Oss and surroundings 70.1%. These response rates form a well-known pattern: fewer responses in Amsterdam than in the rural areas. Furthermore, it should be noted that the high refusal rate in Amsterdam was partly caused by the obligatory two-step procedure in this city. The southeast of the Netherlands exhibited the high response expected for this region, despite the two-step procedure used in Boekel.

Specific non-response with respect to sex and age. Although the influence of sex on non-response has frequently been studied, there is no clear evidence for a sex difference in refusal behaviour. However, age of the sampled persons has been found to correlate with non-response in many studies, and there is overwhelming evidence that the elderly are more likely to refuse cooperation (Bethlehem & Kersten, 1986; Goyder, 1987; Groves, 1989; Herzog & Rodgers, 1988).

In this study, no clear differences in response behaviour were detected between males and females. There is a clear correlation between age and response and non-response due to refusal and illness (*Figure A.2*). Significantly more interviews were agreed to by the younger elderly (55-69) and, among the very oldest (80-89), significantly fewer interviews were completed. This same very old group was also overrepresented in the non-response due to illness. If we look at the age differences among those who refused, it is clear that the very young elderly (55-60) and people in their early seventies were overrepresented among the refusers. Thus, in the category of the youngest sample members, we found a relatively high rate of participation and of refusal, and a relatively low rate of non-participation due to illness. Therefore, there was no linear age-related refusal rate.

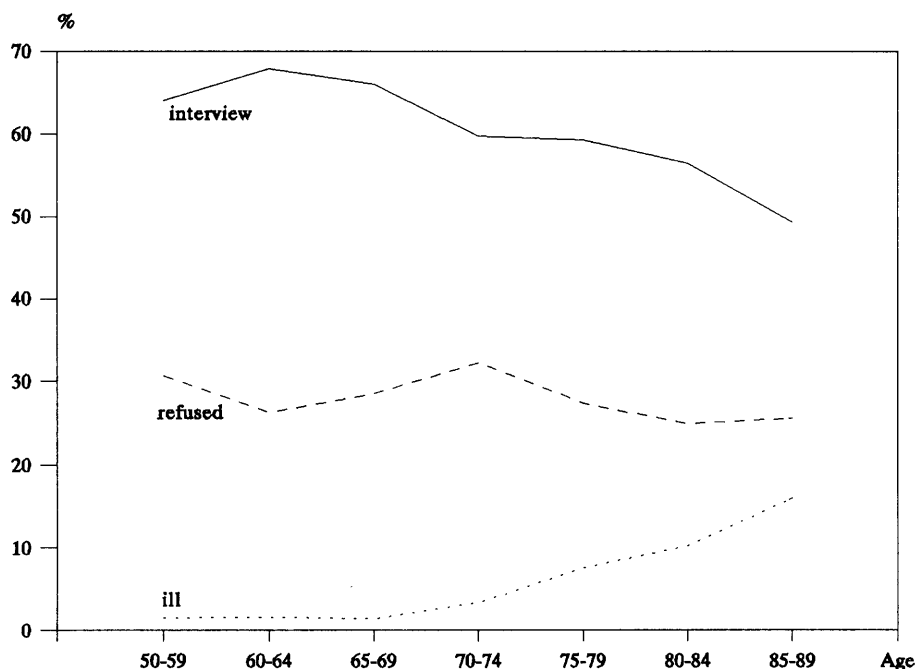


Figure A.2. Response and types of non-response by age ($N = 7574$)

A.6. The representativeness of the realized sample

In this section, we will briefly assess to what extent the realized sample was representative, with particular emphasis on three key aspects,

1. regional distribution,
2. distribution according to level of urbanization, and
3. distribution according to marital status.

Sex and age are not reviewed because the sample stratification already includes these characteristics.

With regard to the regional distribution of the realized sample, elderly people were somewhat underrepresented in the western provinces and overrepresented in the northeast of the country, in particular in the southeast. To assess how representative the realized sample was regarding level of urbanization, we used a recent measure developed by the Netherlands Central Bureau of

Statistics (Den Dulk, Van de Stadt, & Vliegen, 1992), based on the address density of an area. To date, this is the best measure of urbanization level available in the Netherlands. The distribution of the realized sample regarding level of urbanization corresponds very closely to that of the total population above the age of 55 years.

We assessed the representativeness of the realized sample by comparing the distribution of respondents regarding marital status, cross-classified by age and sex, with the marital status distribution of the underlying population. Among males, there is generally a very good fit between the realized sample distribution and the distribution of the population regarding marital status. Divorced elderly people are slightly underrepresented, especially among the youngest and oldest age groups, whereas widowers are slightly overrepresented, especially among respondents between the ages of 80 and 84 years. The realized sample and population distributions of married and never-married males exhibited quite a close correspondence. Among females, the differences between the realized sample and the population were larger than among males. Overall, never-married and divorced females were underrepresented and widowed females overrepresented in the realized sample. The under-representation of never-married females was apparent in all age groups except the youngest. Divorced females were also underrepresented in most age groups, with the exception of 65-69 and 85-89 years. Widowed females were overrepresented in most of the age groups. Married females exhibited a high correspondence between the realized sample and the population.

Based on these figures, we can conclude that the realized sample was fairly representative of the underlying population. To enhance the national representativeness of the realized sample, we decided to weight the sample according to region. Secondly, within each age and sex category, the sample was weighted according to marital status. Furthermore, since the older age groups and the older males were both oversampled, special sample weights were calculated to compare cohort scores, correcting the oversampling of males, and to assess overall scores for all respondents aged 55 and over, correcting the oversampling of older cohorts. In this book, weighted data are presented for the descriptive data that give an indication of the situation of the elderly in the Netherlands. However, unweighted data are used in the explanatory analyses.

References

- Bethlehem, J.G. & Kersten, H.M.P. (1986). *Werken met nonrespons* [Working with non-response]. Dissertation, Universiteit van Amsterdam.
- Dulk, C.J. den, Stadt, H. van de, & Vliegen, J.M. (1992). Een nieuwe maatstaf voor stedelijkheid: De omgevingsadressen-dichtheid [A new measure of urbanization: The address density of the area]. *Maandstatistiek voor de bevolking*, 92/4, 14-27.
- Goyder, J. (1987). *The silent majority: Nonrespondents on sample surveys*. Cambridge: Polity Press.
- Groves, R.M. (1989). *Survey errors and survey costs*. New York: Wiley.
- Heer, W. de. (1992). *International survey on non-response*. Netherlands Central Bureau of Statistics.
- Herzog, A.R., & Rodgers, W.L. (1988). Age and response rates to interview sample surveys. *Journal of Gerontology: Social Sciences*, 43, 200-205.
- Herzog, A.R., & Rodgers, W.L. (1989). *The use of survey methods in research on older Americans*. University of Michigan, Institute for Social Research.
- Hoinville, G. (1983). Carrying out surveys among the elderly. *Journal of the Market Research Society*, 25, 223-227.
- Louwen, F. (1992). Nonrespons: Bereidwillig maar niet bereikbaar of bereikbaar maar niet bereidwillig [Non-response: Willing but unreachable or reachable but unwilling]. *Onderzoek*, 6/7, 5-9.
- Netherlands Central Bureau of Statistics (1990). Overlevingstafels voor mannen en vrouwen naar leeftijd, 1985-1989 [Survival tables for men and women according to age, 1985-1989]. *Maandstatistiek van de bevolking*, 90/9, 50-51.

LIVING ARRANGEMENTS AND SOCIAL NETWORKS OF OLDER ADULTS

*C.P.M. Knipscheer, J. de Jong Gierveld,
T.G. van Tilburg, P.A. Dykstra (eds.)*

Living arrangements and social networks form a set of interlocking social structures, which each have their own biography and cultural tradition. Drawing upon an extensive and detailed empirical study among older adults, successive chapters of the book describe these interlocking social structures: partner relationships and the living arrangements of which they are part, networks and the families, neighbourhoods, organizations and larger institutions in which they are nested. The book ends with a comprehensive analysis, showing how social embeddedness contributes to older adults' well-being.

Researchers and practitioners learn more about the interconnections older adults have with others, and how this enables them to arrange their own lives.

ISBN 90-5383-404-4



9 789053 834046

VU University Press, Amsterdam